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ABSTRACT

Among these education-related papers in this collection are "Consumer Issues and the Elderly" (Moon); "The Relationship between Perceived Life Satisfaction and Measures of Economic Well-Being" (Douthitt, MacDonald, Mullis); "Research Data Priorities as Assessed by Users" (Chern, Hushak, Tweeten); "New Directions in Data, Information Systems and Their Users" (Stafford, Haidacher); "The Consumers Unions of the World" (Karpatkin); "Successful Partnerships in Consumer Education" (Williamson); "Are We Estimating a Life Cycle Model or an Error Correction Model?" (Mokhtari); "Analysis of Health Care Expenditures with Family Income and Life Cycle Stage" (Stiefvater); "Characteristics of Users of Five Consumer Shopping Styles" (Ackerman, Hawks); "Teenagers' Work Experience" (Canabal, Larson); "Identifying Caregiver Skills" (Conway, Chenoweth); "Couples Decision Involvement" (Hawks, Ackerman); "Teaching and Learning about Social Insurance" (Knapp); "Comparisons of Extension Home Economists' Perceived Competency in Family and Consumer Economics" (Pankow, Fitzgerald, Koehler); "The Evoluation of a Survey in a Rapidly Changing Arena" (McRee, Widdows); "Money in Music" (Scannell); "Dollarwise--A Board Game" (Walker, Jones); "Living Resourcefully" (Walker, Jones); "How Should Health Claims for Foods Be Regulated?" (Pappalardo, Calfee); "Recent Public Education Efforts about Health and Diet" (Levy, Heimbach); "Health Claims in Advertising" (White-Means); "Predicting Consumer Complaints" (Kolodinsky); "International Consumerism and the Code of Conduct" (Peterson); "Labor Supply and the AFDC Child Care Subsidy" (Joesch); "Child Support Reform and Noncustodial's Labor Supply" (MacDonald); "The Shadow Price of Time" (Wang); "Age-Related Changes in Expenditure Patterns" (Chung, Magrabi); "The Joint Impact of Retirement and Widow(er)hood" (Holden); "Consumer Education in the 1990's" (Guiton); "Time Constraints and Consumer Decision-Making" (Warland, Herrmann, Kassab); "Flexible Spending Accounts" (Hampton, Kitt, Greninger); "Emerging Consumer Issues in the 1990's"

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PROCEEDINGS

36th annual Conference

of the

AMERICAN COUNCIL ON CONSUMER INTERESTS

March 28 - March 31, 1990
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AMERICAN COUNCIL ON CONSUMER INTERESTS
36TH ANNUAL CONFERENCE
MARCH 29 - MARCH 31, 1990

New Orleans, Louisiana

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FROM THE EDITOR

The 36th Annual Conference of the American Council on Consumer Interests brought together professionals from across the United States, Canada and Europe to participate in presentations and discussions on the consumer. The variety of papers reflected an international flavor as well as social and economic changes in society. Topics addressed at the conference included consumer affairs, consumer education, consumer information and personal financial management. Specific attention was given to problems of elderly consumers and international consumer issues along with a resurgence of interest in meeting the needs of low income groups.

All speakers on the annual conference program were invited to submit camera-ready manuscripts typed according to *Proceedings* specifications for inclusion in this publication. The cooperation of the presenters and their support staffs have been truly excellent and are to be commended for their efforts to meet the early deadline imposed upon them so that all may receive the publication before the summer.

The program chairman, Loren Geistfeld, is to be commended for his efforts which brought together this informative and stimulating program. Appreciation is also extended to the speakers, manuscript reviewers, and to Fran Lawrence and Carolyn Carter along with members of the local arrangements committee. Special appreciation is extended to Mehmet I. Giray for his technical assistance in the preparation of the *Proceedings*.

Mary L. Carsky
The University of Hartford

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CONSUMER ISSUES AND THE ELDERLY

Marilyn Moon, The Urban Institute[1]

Older Americans constitute a vital subgroup of our population and one that is often singled out for special treatment. But should we view this group as particularly deserving or in need of special attention as compared to other adults? This lecture raises the policy and research issues that arise from this question.

In preparing for this talk on consumer issues facing the elderly, I was intimidated by the enormity of the possible issues to discuss. But as an economist, I was also struck by how closely the issues discussed track what economists like to term market failures and redistributional issues. Rather than the mainstream concerns of microeconomics of maximization and efficiency issues, consumer interests focus on the problems and issues that the market fails to appropriately address. Efficiency and pure competition constitute the main thrust of neoclassical economic analysis; what is being discussed here are the problems that such a laissez faire system fails to address. There is a natural link between researchers interested in redistributional issues (who gets what) and the market failures that require regulation or direct government provision.

This emphasis leads rather quickly to research with practical applications and away from the realm of the purely theoretical--an emphasis with which I am very sympathetic. In fact when I refer to myself as a "defrocked" economist, I am placing myself squarely in the camp of skepticism about the ability of the market to always find the "just" solution. I am very glad to see so much interest in how economic issues affect individuals and what adjustments or constraints to the free market would improve the lot of individuals.

The 1980s will be remembered, I believe, as the decade of the cult of the free market. Deregulation was a major goal of many prominent politicians in the 1980s--as was reducing the general role of the federal government. Trickle down economics and tax reform implicitly reduced government's activities in redistributing income as well. In fact, interest in market failure, regulation or the distribution of well-being was often viewed as negative thinking and consumer groups and academic researchers working on these issues were placed on the defensive. Even today remnants of this negativism can be found in political circles. For example, proponents of a capital gains tax change have referred to those who raise concerns about the distributional impact of the tax as "demagogues" promoting "class warfare". Rather than viewing redistribution and market failure as legitimate concerns, the fashionable response has been a preference for market solutions and suspicion that government intervention could ever improve the lot of the American people.

I do believe that the tone of the discussion is changing. However, even as we are moving away from some of these notions, the consequences of the emphasis in the 1980s on unfettered market responses will likely carry over to the 1990s. And these consequences may spur a reaction. The alarms sounded over the increased inequality in incomes and some of the negative consequences of deregulation will likely swing the pendulum in the other direction and may redress some of the imbalance in attention to the full range of issues with which economists and others need to grapple. My hope for those of us interested in consumer issues is that we may once again find ourselves in the mainstream or at least toiling on issues deemed relevant by our peers.

The goal of the Colston Warne lecture is to try to encourage better communication between researchers and advocates on issues critical to the well-being of individuals in our society. Rather than trying to talk about the process of bridging these two areas, I propose to spend most of my time discussing consumer issues facing the elderly with a focus on current policy concerns.

But let me first briefly sum up what I have gleaned from working closely with advocacy groups. In addition to the test of theoretical consistency in economics or other disciplines, research that will be useful to policy must also meet the test of reality or common sense. Counterintuitive results are fine as long as you can provide a context in which the results make logical sense. Reliability of data also concerns nonresearchers who fear that the quality of the data may drive the results. These are not unreasonable demands; in fact, they may make researchers more honest in assessing what they can say and with what reliability. Research then moves beyond the realm of an academic exercise and into the need to be supportable. There is nothing like a skeptical nonresearcher to test whether or not you can defend your work.

---

[1] Senior Research Associate

THE ELDERLY AS A CRITICAL CONSUMER GROUP

Historically, the elderly in our society have been viewed as a sympathetic and vulnerable group. Rates of poverty were high for those who could no longer participate in the paid labor force, often because of poor health or frailty. As a group, the elderly were termed the "deserving poor" and treated to a host of protective legislation. But just as the 1980s represented a time of skepticism about consumerism, some of the usual stereotypes of the elderly also began to change in recent years. Nonetheless, a reasonable case can certainly be made that the elderly represent a critical consumer group.

Economic Status and the Elderly

Perhaps the most important transition in attitudes toward the elderly during the 1980s occurred in the area of economic well-being. By almost any measure of financial status, the average person over the age of 65 gained during the 1980s. The rate of poverty declined from 15.7% in 1980 to 12.1% in 1988. Moreover, this increasing affluence occurred when income growth for younger adults was slowing. For example, average incomes of those over the age of 65 increased 20.3% in real terms between 1980 and 1988, while persons aged 15 to 64 over averaged only a 13.9% increase in income. Older persons are largely outside the workforce and did not suffer from the severe recession in the early part of the decade. Moreover, the cost-of-living adjustments they enjoy have partially sheltered this group from inflation.

The rising affluence of the elderly as a group came to pass at a time when we also became reluctant to expand the size of the government. A considerable share of the well-being of the elderly stems from government programs--a fact not lost on those who wish to shift away from support for this group. In fact, the swing in the portrayal of older persons in the media has been dramatic, shifting from sympathy to antipathy toward those "greedy geezers." But these stereotypes are not any more subtle or accurate than were the old notions of all the elderly as poor. And it has become more difficult to argue on income grounds alone that the elderly should be treated as an homogenous group in need of special protections.

Despite the growth in average incomes for older Americans, the financial picture is not all rosy. More than three million persons over age 65 remain below the poverty level (set at slightly about $125 per week for an elderly individual living alone). This is the highest rate of poverty among all adult Americans. An equal or greater percentage of older persons have incomes just above this threshold. Thus, nearly a quarter of older Americans--and over a third of those who are widowed and living alone--are near or below poverty.

Crucial Economic Decisions

Older persons often face critical decisions regarding their finances. Investment of savings to supplement retirement income can make the difference between living well and just getting by. Often retirement benefits are available in a lump sum payment that individuals must invest.

The death of a spouse creates major disruptions in the financial affairs of the survivor and decisions must often be made while the individual is under great stress. Changing needs and circumstances may necessitate the sale of the family home, generating a major shift in resources.

Health

Older Americans use more health care services than any other age group by a factor of nearly 3 to 1. They interact with the full array of health care providers and services consuming more hospital care, more nursing home care, more drugs, more home care, more physician services per capita. The implications of asking health care users to be more aggressive consumers thus places a disproportionate burden on older persons.

Layered on top of this service use is the necessity to deal with a public program, Medicare, and generally either one or more private supplemental insurance plans or Medicaid. After those payers interact with providers, the elderly must still cope with substantial out-of-pocket costs for this care. To appreciate the problems posed by the confusing forms and bills, listen to the tale of woes of health care analysts like myself when friends and relatives ask for some help in sorting out who owes what to whom. It's a good thing that many older persons are retired, since keeping track of health care expenditures can be a full time job. And medigap policies historically have been pushed aggressively--and don't always represent good value to policy holders.

Unfortunately, the greatest of these burdens normally come at a time of illness for individuals or their families. The task of being a prudent consumer becomes complicated by the diminished ability of individuals to handle stress.

Vulnerability

Another dimension of the greater health care needs of the elderly is the impact on meeting other needs. Frailty associated with chronic conditions or the aging process creates special needs in housing and everyday activities such as marketing. Consequently, older persons may rely more on services to meet their needs. At the same time, because of frailty or ill health, they may become more isolated and have less access to friends and other sources of information or support.

Cognitive problems--whether mild or full cases of dimentia--also create special consumer needs. Intervention to protect a person of diminished capacity may be necessary. Such individuals are more vulnerable to abuse from unscrupulous salespersons or service providers.

On the other hand, it may be easy to stereotype older persons and assume that any confusion on their part is due to "senility." If so, older persons may be victims not only of those who seek to abuse them, but also of those who seek to be helpful. While Alzheimers and other cognitive dysfunctions consitute very real problems for older persons, we should not forget that only 1 out of every 6 persons aged 80 suffers from dimentia.

Any of these examples could be modified to demonstrate the special needs of individuals in similar circumstances but who are not over the age of 65. For example, poverty and low incomes disproportionately affect female-headed families with young children. Disability and high medical costs can occur for anyone; in fact, even greater health expenditures are likely to be associated with neonatal care for premature infants or trauma injuries to young adults. And financial decisions also occur at all ages. Purchase of a first home creates many possibilities for abuse as well.

SPECIAL NEEDS, SEGREGATED TREATMENT?

Many examples of age-based consumer protections exist; others are frequently suggested. In some states, for instance, penalties for persons convicted of mugging older persons are more severe than when younger adults are victimized. Private health insurance plans that supplement Medicare--and which are marketed primarily to the elderly--are specifically regulated by the Baucus Amendment. Federal tax returns offer favored treatment to those aged 65 and older (although to a lesser degree after the tax changes in the 1980s). On the other side of the ledger are regulations that place particular restrictions on older persons: requirements that all individuals over a particular age take additional drivers' license tests for example. Insurance for automobiles and health may be age-rated. Liability damages paid to injured individuals are generally lower for older persons than for working-age adults.

A related example arises in food standards. Often our taste buds alert us to problems in foods; if it tastes or smells bad, we are likely to avoid the food. Older persons, on the other hand, are less likely to benefit from that built-in protection. They may be more suseptible to tainted food--and then may suffer more from the ill effects if they are frail. Should we have separate standards for seniors or should we think about setting standards that take such vulnerabilities into account? Should the overall standards be raised to reflect the special needs of one group but protecting everyone?

Another example of this issue comes from an actual consumer problem that the AARP tried to address: sleepwear flammability. Studies have shown that the two most vulnerable groups to apparel fires are the very young and the very old. Moreover, when older persons are burned they are more likely to die from their injuries. Sleepwear for children are subject to flammability standards, but no such protections exist for older persons. Since it is difficult to identify sleepwear that would be used by persons over the age of 65 or 70, any standards would have to apply to all adult sleepwear. If the costs of making sleepwear safer are very high, the benefits, when also averaged across all adults, might not be high enough to justify requiring that nightwear be treated.

Thus, it becomes difficult to argue for protection for a minority when the regulations would affect a much larger group. In this particular case the request was for improved labeling--a low cost solution that would allow those concerned about sleepwear flammability to identify those products that offered better protection. Unfortunately even this low cost alternative was just recently rejected by the Consumer Product Safety Commission.

IMPLICATIONS FOR RESEARCH

Thus far most of my discussion has centered on advocacy and policy. What are the implications of this discussion for research? Implicitly I have suggested a number of ways in which older persons may not be a unique group for study and analysis, or certainly not in all cases. The issue of whether to "mainstream" the elderly can best be addressed by improving some research to ensure that the answer will reflect reality rather than perceptions and stereotypes.

I have already suggested that many changes have occurred in the economic status of persons over the age of 65 in recent years. But a great deal of controversy and unresolved questions remain. Are older persons as well off as their younger counterparts? The answer depends on the measures used and adjustments that are made to ensure comparability. Further careful work indicating what matters most in making comparisons between the young and the old would help sort out this debate.

In addition, the issue of economic status is not just one of measurement but also one of an implied sense of fairness recognizing other dimensions facing older persons. For example, what is the implied contract in retirement programs that promises a certain level of benefits and elicits behavioral responses? Are changes in those benefits more troublesome than other changes since older persons may not be able to adjust after the fact? How much lead time should be given before such benefits are changed?

The extra burdens that health spending and health problems impose on older persons will also need continued research over time. While there has been considerable analysis in this area we have by no means exhausted the relevant questions. Rising costs of health care in general will likely increase the pressures on individuals to be prudent purchasers of care and the elderly will not be exempt from these challenges. Debate over the types of financial protections for both acute and long term care costs can be better informed with additional research on how individuals are and would be affected by policy.

In those areas where special protections may be needed for older persons, what is the appropriate age cutoff? Our traditional use of age 65 has always been an arbitrary standard. Increased life expectancies and pressures to reevaluate public program eligibility will place the age limits under increased scrutiny. Further research, often specific to the particular issue at hand, will be needed to keep the next age cutoff from being as arbitrary.

The issue of whether the needs of one group can be accommodated in standards for all raises perhaps the toughest issue for research and public policy. Standards are often set on the basis of comparing the costs of the protection (in terms of compliance) to the benefits of reduced injuries, etc. When those benefits exceed the costs, a strong economic argument can be made for establishing the protection. If we are setting high standards to protect a vulnerable subgroup of the population, the benefits may mainly be felt by the subgroup while the costs would be incurred for all consumers.

Take for example my earlier description of the special needs of the elderly in setting food standards. If the benefits to the average consumer are used to set the standard, less might be required say of poultry producers to inspect and screen out products of marginal quality. Such an equation would yield the greatest difference between the expected benefits and costs to society as a whole. If the calculation was conducted instead on older persons, tainted food may cause more harm and hence the benefits from higher standards could be justified. But it is not feasible to have a food section where poultry is marked: "for the elderly only." How do we reconcile these concerns?

When there are high benefits for, say, 10% of the population but the costs will be spread over the other 90% as well, will standards ever be set high enough to protect the vulnerable group? Some basic methodological research on the problems of protecting vulnerable subgroups when setting standards could be very useful in addressing this issue.

In the case of drugs, the issue might be somewhat simpler if protections consisted mainly of labeling or education of users. In those cases distinctions could be made that help in protecting vulnerable populations by directing the information at particular subgroups. On the other hand, the challenge here would be to undertake research in the developmental stage that focused on subgroups such as the elderly to determine whether there are special needs. At a minimum, more research is necessary on costs and benefits to understand when there are varying levels of harm.

Finally, let me extend a last challenge to the research community to find ways to get information into the hands of the policy makers and to the general public as well. The type of policy relevant research I have been discussing today will only be useful to the world at large if people take some time to make their results accessible to a broader community than the academic world. There exists today a more receptive audience for research findings in the legislative and--in the post Reagan era--the executive branch of the federal government. State governments are also becoming more tuned in to research and new policy ideas.

Perhaps an even greater challenge arises in communicating with the public at large for it is also clear that policymakers are very attuned to polls and influence from constituents. The failure of the recent Medicare catastrophic letgislation is perhaps the most telling example of how leaving consumers out of the policy discussion can cause a major backlash. I hope you will consider it your responsibility to think of these audiences as well as your academic peers when you do policy-relevant work.

The Relationship Between Perceived Life Satisfaction and Measures of Economic Well-being

Robin A. Douthitt, Maurice MacDonald, Randolph Mullis[1]

This study examines the realtionship between people's perceived overall life satisfaction and economic well-being. Three different models are examined using different measures of economic well-being-- the Life Cycle Income, Relative Income, and Resource Deficit Hypotheses. Results indicate that the Relative Income Hypothesis model performs best.

INTRODUCTION

This study will address the interesting and important issue of the relationship between a person's objective, economic well-being and subjective, psychological well-being. Despite a generation of quality of life research, the relationship between these two types of well-being has been dealt with only superficially in the literature. The literature has been particularly lax in its treatment of the economic variables measuring those variables poorly, if at all. Thus, the main contribution of this study is its potential to relate quality of life measures, as defined by sociologists and social psychologists, to more carefully constructed measures of economic well-being. In so doing, it is expected that more variation in psychological well-being can be accounted for by using improved measures of economic well-being than that previously accounted for by measures traditionally used in quality of life research.

Previous social science research has studied one's perceived psychological well-being as it is shaped by personal aspirations, life expectations and choice of means necessary to pursue the desired ends. It has been found that when personal choices have negative consequences, those consequences may culminate into feelings of despair, disenchantment, powerlessness, estrangement, or false-consciousness (Mead, 1962; Durkheim, 1951; Merton, 1957; Wachtel, 1983). Rainwater (1974:17) indicates that in all societies, human beings evaluate their well-being based upon the degree to which circumstances allow them to engage in "validating activities." Such social actions affirm a person's identity as a respected member of society, in consonance with one's sense of inner needs, whether they be simple, physical needs, or more complex, transcendent needs.

Admission into "validating activities" in contemporary society is largely achieved through consumption and is heavily conditioned by one's financial surplus. Thus, one would expect that people's positive and negative quality of life assessments would have a strong correspondence to their acquisition and disposal of economic resources. Paradoically, however, while a positive relationship may exist between income status and psychological well-being, it is not an exclusive relationship. Campbell (1976) characterizes it as follows:

> There is no doubt that over the last twenty years, high income people in the United States have been more likely to describe themselves as "very happy" than those with low incomes. Looking at five national surveys conducted between 1957 and 1978, we find an unmistakable pattern. In each of these years, the proportion of "very happy people" is higher as we move from low-to-high income levels. A very stable relationship, but by no means an exclusive one. Even among the most affluent, there are a large minority who describe themselves as less than very happy, and a sizeable minority of the least affluent claiming that they are very happy. Happiness is far from the exclusive domain of the well-to-do.

In the surveys referred to by Campbell, as in most research conducted by sociologists or psychologists, the measure of economic affluence is "current income" (e.g., Dohrenwend, 1973; Edwards and Klemmack, 1973; Clemente and Sauer, 1976; Hall, 1976; Allardt, 1977; Danziger, 1980; Andrews and McKennel, 1980; Fernandez and Kulik, 1981; Kessler, 1982; Link, 1982; Gray et. al., 1983; Hofferth, 1983; Haring et. al., 1984; Mutran and Reltzes, 1984; Keith, 1985; and McLanahan, 1985).

Current income is an unstable predictor of well-being in that it does not accurately reflect consumer behavior with respect to consumption or saving, nor does it reflect other components of financial security which undoubtedly contribute to a sense of well-being. To accurately evaluate and account for the economic resource effects on psychological well-being, it is critically necessary to disentangle the economic variation represented by any single current income level. For example, a group of individuals, each with an annual income of $30,000, is highly likely to diverge with respect to other important economic resources. Some may have low or negative net worth (i.e., assets minus liabilities), while others have relatively high net worth. Some may have relatively inadequate contingency assets. Yet, on the other hand, many may be experiencing relatively high, while others relatively low, current incomes with respect to future incomes. Thus, this project's significance may be summarized by the specific aim of developing several rigorously defined measures of economic well-being to accurately analyze the relationship between the economic domain and psychological well-being.

METHODS

The data used for this study are from the Wisconsin Basic Needs Study (BNS), a survey of Wisconsin residents, gathered by the Institute for

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Research on Poverty at the University of Wisconsin at Madison. The BNS was conducted to ascertain information on family household expenditures, income and other economic and demographic characteristics. Respondents, whose selection is described below, were interviewed five times, one personal and four telephone interviews, over the course of 18 months. The 1,816 households who completed the first personal interview were originally contacted through random-digit-dialing within pre-specified geographic areas. Respondents also completed three two-week diaries of all expenses during the months to which their telephone interviews referred. This procedure was intended to measure food expenditures and other frequently recurring financial outlays, such as for personal care products and gasoline.

The first personal interview collected background demographic information on the respondents[2] and other household members[3]. Infor-mation from the subsequent phone interview were used in this study to identify monthly income, debt balances, changes in household demographics, and subjective evaluation of well-being.

For this study we were concerned with potential bias due to sample attrition. There were two potential sources of attrition; those respondents who could not be located for the follow-up phone interview and those who did not complete the expenditure diary. Two hundred and forty respondents could not be located for the first phone call interview. The diary completion rates were about 80 percent of the telephone survey. To correct for potential biases that arise from these effects, a weighting procedure to correct for sample selection bias was also conducted[4]. The sample used for this analysis was drawn by eliminating single individuals under 40 years of age, respondents with own children over 30 years of age living at home, and households where either non-relatives or extended family members were present. The final sample size was 654. Table 1 provides some summary sample statistics.

VARIABLES

Psychological Well-Being

Many scales have been created by sociologists or psychologists to measure psychological well-being[5]. The dependent variable used in this research as a measure of psychological well-being is constructed by conducting factor analysis on responses to a total of fourteen items asked in the BNS to assess respondent satisfaction with various aspects of their life. Factor weights were then applied and the weighted sum divided by the number of items to construct an index of overall well-being, thus retaining Andrew & Withey's (1976) seven point (1= terrible; 7= delighted) scale. Since three of the fourteen items relate to job satisfaction, separate weights were calculated for the two groups of employed versus non-employed respondents[6].

Economic Well-Being

Three measures of economic well-being are constructed to test the relationship between psychological and economic well-being. They include (1) Modigliani and Brumberg's (1954) "Life Cycle Income Hypothesis" (LIH) which states that consumers' sense of well-being is grounded in their ability to maintain a relatively level pattern of consumption throughout their lifetime, (2) Duesenberry's (1949) "Relative Income Hypothesis" (RIH) which argues that consumers' reference groups have a direct impact on the extent to which economic resources are regarded to be adequate or inadequate, and (3) Kyrk's (1953) "Resource Deficit Hypothesis" (RDH) which suggests that the greater the discrepancy between the economic resource level to which one aspires (standard-of-living) and the actual level experienced (level-of-living) the lower the reported psychological well-being.

The life cycle income hypothesis is operationalized by including measures of the respondent's current and expected income as well as net worth. These variables better measure the life cycle concept of economic well-being and thus should better indicate the family's perceived ability to maintain a relatively level pattern of consumption throughout their lifetime. Expected income was imputed for each household by (1) regressing current total family income on respondent education, respondent occupation, and youngest adult's age and age squared (2) generating an income stream over the life cycle from T+1 to D, remaining life expectancy of the youngest adult (3) summing that stream, and (4) dividing by remaining life expectancy of youngest adult in the household. Current net worth was calculated by netting liabilities from assets and dividing by the remaining life expectancy of the youngest adult in the household.

Duesenberry's relative income hypothesis is operationalized by including not only family income but also a measure of relative consumption. We measure relative consumption by calculating the sample mean total monthly expenditures for goods

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[2] The respondent was defined as the individual with the most responsibility for the household's finances.

[3] Households were defined as "the set of people at one address who are related either by blood, marriage, or other legal arrangement, or who share major expenses."

[4] The results of those analyses are available from the authors upon request.

[5] See for example Bradburn and Caplovitz (1965); Herzberg and Hamlin (1961); Herzberg, Mausner and Snyderman (1959); Bovard (1962); Campbell, Converse and Rodgers (1976).

[6] Items used in the constructed index include satisfaction regarding family life, physical needs, accomplishments, government economy, leisure activities, standard of living, housing, health, financial security, cost of living, income, job, employment remuneration, and work environment.

Table 1.
Weighted sample means and standard deviations.

	Mean	Std. Dev.
Family Income	$20,765	14312
Family Size	2.71	1.48
Total Monthly Expenditures	$1,551	1283
Expenditures/Md. Income	1.41	1.16
Household Equivalence	1.89	3.42
Percentage of:		
Two Parent Families With:		
Preschool Kids	11%	31
School Age Kids	19%	39
Launching Kids	12%	33
Single Parent Families With:		
Preschool Kids	1%	10
School Age Kids	7%	25
Empty Nest Families	23%	42
Older Single	20%	40

and services and netting that value from the family's actual total monthly expenditures. In this way we capture the "relative" nature of economic well-being or the extent to which families are keeping up with the average (Jones) family's consumption.

Because of respondent's tendencies to express satisfaction with their current income, direct testing of Kyrk's resource deficit hypothesis level minus standard of living relationship is not very fruitful. Thus we chose rather to operationalize this hypothesis by examining responses to the question, "How much income would make you feel terrible" and net that value from current family income. Because respondents would implicitly take into account family needs when answering this question, there is no need to control for that factor (i.e., family size) in the resource deficit hypothesis life satisfaction analysis.

Life Cycle Variables

Researchers have found that stresses associated with life cycle stages are important predictors of psychological well-being. Stage in the family life cycle affects one's work values during the life course, especially the importance a person places on financial rewards which are in turn affected by such factors as marital status, number of dependent children, and the need for income.

Wilensky (1981) and Estes and Wilensky (1978) have conducted extensive research to analyze the relationship between stage of the life cycle and sense of well-being. Wilensky (1981) developed the concept of "life cycle squeeze" which represents stages during which people experience minimal job satisfaction, lowest participation in community life, greatest financial and family burdens and the greatest psychological tension.

In view of the importance of the stage of the life cycle as a predictor of well-being, we have constructed indicator variables similar to those used by Estes and Wilensky (1978). However, most notably missing from the Estes and Wilensky definitions is a stage in the life cycle where one might become a single parent. Thus, we have added such an indicator variable to the analysis.

These life cycle variables are included in both the relative income and resource deficit hypotheses models. However, they are not included in the life cycle income hypothesis model, since respondent's age, which is highly correlated with life cycle stage, is used to calculate annuitized net worth.

Control Variables

In addition to measures of economic well-being effects, it is necessary to control for family needs in testing the relationship between the life cycle income hypothesis and life satisfaction. In previous studies of well-being, such measures were often either omitted or a gross indicator like family size was used. In this study, household equivalence scales are constructed to control for such effects.

The particular household equivalence measure used in this analysis is one developed by Buse and Salathe (1978) and modified by Tedford, Capps and Havlicek (TCH) (1986). The primary advantages of the Buse and Salathe equivalence scale calculation is that their scale is expressed as a continuous rather than discrete function of age. TCH's contribution involves respecification of the scaling functions in a manner consistent with the human development literature by augmenting stages first identified by Levinson et al. (1978). Like Buse and Salathe, TCH incorporate the well behaved, cubic spline functions to calculate the continuous adult scale functions. In sum sixteen weighted sum variables are calculated as a function of household age and gender character- istics and regressed on total monthly expenditures for food to derive the household equivalence measure[7].

The household equivalence measure was not included as a control in either the relative income or resource deficit hypothesis models. Because calculation of the equivalency variable is based on a life cycle model, including it with those variables in a model will result in inefficient estimates. In the resource deficit model there is no need to control for family needs, as the respondent would implicitly make such an assessment in expressing what level of income would make them feel terrible.

RESULTS

Results of our analysis are presented in Table 2. Because of high collinearity between the annuitized net worth variable and stage of the life cycle, life cycle variables were dropped from the life cycle income hypothesis specification. The lambda, sample selection correction term proved insignificant in all three models. All models' specifications explained a significant

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[7] Details of this procedure are available from the authors upon request.

Table 2. Regression results of life satisfaction and the life cycle (LIH), relative income (RIH), and resource deficit (RDH) hypotheses (standard errors in parentheses).

	LIH	RIH	RDH
Constant	3.228** (.622)	1.216** (.464)	2.62** (.294)
ln INCOME	.209** (.031)	.174** (.027)	- -
ln EXPECTED INCOME	-.213** (.054)	- -	- -
DIFFERENCE	-	-.231(E-04)* (.114 (E-04)	-
HH EQUIVALENCE	-.043** (.862 E-02)	-	-
ACTUAL-MINIMUM INCOME	-	-	.347(E-05)** (.623 E-06)
ANNUITIZED NET WORTH	.677 (E-06) (.915 E-06)	-	-
MARRIED:			
PRESCHOOL KIDS	-	-.120 (.062)	-.115 (.062)
SCHOOL AGE KIDS	-	-.054 (.057)	-.036 (.057)
LAUNCHING	-	-.212** (.062)	-.213** (.062)
EMPTY NEST	-	.127* (.056)	.123* (.056)
SINGLE:			
PRESCHOOL	-	-.252 (.141)	-.315* (.143)
OTHER KIDS	-	-.207** (.070)	-.234** (.071)
SURVIVOR	-	-.129* (.059)	.082 (.058)
LAMBDA	-.564 (.553)	-.432 (.483)	-.146 (.454)
Adjusted R^2	.12	.15	.13
Chi-Square	100.35**	135.79**	118.09**

*,** Significant at the .05 and .01 levels, respectively

amount of variance in the dependent variable, overall life satisfaction, about 15-20%[8]

Life Cycle Income Hypothesis Results

Results of the LIH model indicate that both current and expected family income, as well as the household equivalence variables are significantly related to life satisfaction. Current income is positively related to life satisfaction as expected. However, expected future income is negatively related to current life satisfaction. This potentially indicates that transitory stages of reduced income (i.e., periods where one's current income falls below permanent income) results in diminished current satisfaction. The household equivalence parameter is of the expected sign, indicating that increasing family size by one standard unit (in this case the equivalent of a 19 year old male) results in reported diminished level of life satisfaction. The annuitized net worth variable proved insignificant, although of the predicted sign.

Relative Income Hypothesis Results

The RIH model explained the largest percentage of variance in the dependent variable of the three models. Results again support the positive and significant relationship between current family income and overall life satisfaction. The Duesenberry relative income hypothesis variable, DIFFERENCE, parameter indicates that holding current income constant, as one's expenditures exceed those of an average household, life satisfaction is diminished. To the extent that this variable also captures whether the household's savings rate (or perhaps more importantly dissavings rate) falls short of (exceeds) that of a reference household, it would imply that such behavior leads to diminished overall life satisfaction.

In addition, life cycle variables were highly related to reported life satisfaction. In this analysis the comparison (omitted) life cycle stage is that of the young childless couple, and results indicate that all other groups with the exception of couples at the empty nest stage of the life cycle report feeling diminished life satisfaction.

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[8] In previous work by the authors (forthcoming) the explained variance of a simple model including only income and family size was about 7%.

Resource Deficit Hypothesis Results

The greater the difference between respondent's current income and the level of income that they reported would cause them to feel terrible (ACTUAL-MINIMUM INCOME), the higher their current life satisfaction. Similar to the RIH findings, stage of the family life cycle is also an important factor in explaining life satisfaction. One difference in this model however, is that the survivor households do not report being significantly less happy than young childless couples, controlling for current income adequacy.

SUMMARY

Generally, all three models of economic well-being performed favorably in explaining psychological well-being. It could be argued that the relative income hypothesis model is the simplest and most powerful of the three. In some respects our theoretical specification of the RIH allows us to examine whether keeping up with the Jones' really contributes to or detracts from one's overall life satisfaction. Results indicate that how far from average we are in terms of expenditure patterns is important, but that spending less than average, holding income constant, improves perceived life satisfaction.

Two additional important conclusions from this work can be drawn. First, a careful specification of economic variables in models explaining family life satisfaction will have important payoffs in terms of explained variance. However, which economic theory of utility maximization used may not be as critical. The more complexly specified life cycle income hypothesis model does not perform any better than the other models whose variables are much easier to derive. Secondly, when economic factors are included in life satisfaction models, the long standing *a priori* economic postulate that increased income will lead to higher levels of satisfaction is supported.

REFERENCES

Allardt, E. (1977). On the relationship between objective and subjective predicaments. Research Group for Comparative Sociology: University of Helsinki *Research Reports*, *16*, 1-22.

Andrews, F. M. & McKennell, A. C. (1980). Measures of self-reported well-being: Their affective, cognitive, and other components. *Social Indicators Research*, *8*, 127-155.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: Americans' perceptions of life quality*. New York and London: Plenum.

Bovard, E. W. (1962). The balance between negative and positive brain system activity. *Perspectives in Biology & Medicine*, *6*, 116-127.

Bradburn, N. M., & Caplovitz, D. (1965). *Reports on happiness: A pilot study of behavior related to mental health*. Chicago:Aldine.

Buse, R. C., & Salathe, L. E. (1978). Adult equivalence scales: An alternative approach. *American Journal of Agricultural Economics*, *60*, 460-468.

Campbell, A. (1976). Subjective measures of well-being. *American Psychologist*, February, 117-124.

Campbell, A., Converse, P. E., & Rodgers, W. E. (1976). *The quality of American life: Perceptions, evaluations, and satisfactions*. New York: Russell Sage Foundation.

Clemente, F., & Sauer, W. J. (1976). Life satisfaction in the United States. *Social Forces*, *54*, 621-631.

Danziger, S. (1980). *From welfare to work: Women's experience in a public job program* (No. DP 612-80). Madison: University of Wisconsin, Institute for Research on Poverty.

Dohrenwend, B. S. (1973). Life events as stressors: A methodological inquiry. *Journal of Health and Social Behavior*, *14*, 167-175.

Duesenberry, J. S. (1949). *Income, savings, and the theory of consumer behavior*. Cambridge: Harvard University.

Durkheim, E. (1951). *Suicide*. New York: The Free Press. Edwards, J. N., & Klemmack, D. L. (1973). Correlates of life satisfaction: A re-examination. *Journal of Gerontology*, 28:497-502.

Estes, R. & Wilensky, H.L. (1978). Life cycle squeeze and the morale curve. *Social Problems*, *25*, 227-292.

Fernandez, R., & Kulik, J. C. (1981). A multi-level model of life satisfaction: Effects of individual characters and neighborhood composition. *American Sociological Review*, *46*, 840-850.

Gray, L. C., Goldsmith, H. F., Livieratos, B. B., & Dupuy, H. J. (1983). Individual and contextual social status contributions to psychological well-being. *Sociology and Social Research*, *68*, 78-95.

Hall, J. (1976). Subjective measures of quality of life in Britain: 1971 to 1975: Some developments and trends. *Social Trends*, *7*, 47-60.

Haring, M. J., Stack, W. A., and Okun, M. A. (1984). A research synthesis of gender and social class on subjective well-being. *Human Relations*, *37*, 645-657.

Herzberg, F., & Hamlin, R. M. (1961). A motivation-hygiene concept of mental health. *Mental Hygiene*, *45*, 394-401.

Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The motivation to work*. New York: John Wiley and Sons.

Hofferth, S. L. (1983). Childbearing decision-making and family well-being: A dynamic, sequential model. American Sociological Review, 48, 533-545.

Keith, P. (1985). Changing patterns and life satisfaction. In E. A. Powers, W. J. Goody, & P. M. Keith (Eds.), Later life transitions: Older males in rural America (pp. 137-156). Hingham, Massachusetts: Klewer Academic Publishers.

Kessler, R. C. (1982). A disaggregation of the relationship between socio-economic status and psychological distress. American Sociological Review, 47, 752-764.

Kyrk, H. (1953). The family in the American economy. Chicago: The University of Chicago Press.

Levinson, D. J., Darrow, C. N., Klein, E. B., Levinson, M. H., & McKee, B. (1978). The season's of a man's life. New York: Ballantine Books.

Link, B. (1982). Mental patient status, work, and income: An examination of a psychiatric label. American Sociological Review, 47, 202-215.

McLanahan, S. (1985). Family structure and the reproduction of poverty. American Journal of Sociology, 90, 873-901.

Mead, G. H. (1962). In C. W. Morris (Ed.) Mind, self, and society: From the standpoint of a social behaviorist Vol. 1. Chicago and London: The University of Chicago Press.

Merton, R. (1957). Social and structure and anomie. In Social theory and social structure (pp.131-160). Glencoe, Illinois: The Free Press.

Modigliani, F., & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. In K. K. Kurihara Post-Keynesian economics (pp. 338-436). New Brunswick, New Jersey: Rutgers University Press.

Mutran, E., & Reitzes, D. C. (1984). Intergenerational support activities and well-being among the elderly: A convergence of exchange and symbolic interaction perspectives. American Sociological Review, 49, 117-130.

Rainwater, L. (1974). What money buys: Inequality and the social meaning of money. New York: Basic Books, Inc.

Tedford, J. R., Capps, O., Jr., & Havlicek, J., Jr. (1986). Adult equivalent scales once more—a developmental approach. American Journal of Agricultural Economics, 68, 322-333.

Wachtell, W. (1983). The unperceived realities of consumer life.In W. Wachtell A psychological portrait of the american family. New York: John Wiley.

Wilensky, H.L. (1981). Family life cycle, work, and the quality of life: Reflections on the roots of happiness, despair, and indifference in modern society. In B. Gardell and G. Johansson, Working Life. New York: John Wiley & Sons Ltd. 235-265.

QUALITY OF LIFE OF MIDDLE-AGED WOMEN: EFFECTS OF FAMILY RESOURCES AND DEMANDS

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Components of the Deacon-Firebaugh family resource management model were used as the conceptual framework to study relationships of selected family variables to the quality of life of women in the middle stages of the life cycle. Path analysis was used to examine the factors which contributed directly and indirectly to life satisfaction. Satisfaction with family life, level of health, marital happiness, and income adequacy had the greatest total effects.

PURPOSE AND CONCEPTUAL FRAMEWORK

The purpose of this research was to investigate the impact of family resources and demands on quality of life as perceived by middle-aged women. Attention focused on women in the middle years because this stage of the life cycle includes a variety of potentially stressful life events that can influence quality of life. These events include rearing and launching of children, mid-life physical and biological changes, illness, aging and death of older kin, and imminent retirement from paid employment.

Components of the Deacon and Firebaugh Family Resource Management Model (Deacon and Firebaugh, 1988) served as the conceptual framework. Deacon and Firebaugh conceptualize family resource management as a system comprised of: 1) inputs consisting of demands (e.g. goals, needs, events) and resources; 2) throughputs of planning and implementing; and 3) outputs of met demands and used resources.

In this research the focus was on the effect that inputs (demands, including events, goals, and resources) had on quality of life, an output. Demands were represented by economic, time, and health stressors; number of dependents; and problems with children. Level of income, perceived income adequacy, years of education, employment status, and level of health were indicators of resources, providing the means to respond to demands. Marital happiness, a satisfying family life, and a high quality of overall life were assumed to be family goals. Respondents' assessments of their marital happiness, family life, and quality of life represented the degree to which these demands were met and were an evaluation of the output of the system. Throughput variables were not investigated. Figure 1 presents the general conceptual model.

OUTPUTS: Subjective Evaluation of:
Quality of Life
Satisfaction with Family Life
Marital Happiness

↑

INPUTS: Objective and Subjective Indicators of:
Economic and Other Resources
Family Stressors and Other Demands

Figure 1. Conceptual Model

Previous research has found that objective circumstances, such as level of income, do contribute to people's overall assessment of life quality and of some specific domains of life (Berry and Williams, 1987; Hafstrom and Dunsing, 1973). However, subjective indicators, such as income adequacy, have been found to make a larger contribution and are better predictors of people's quality of life (Ackerman and Paolucci, 1983). Many studies have found that satisfaction with family life is one of the highest predictors of overall quality of life (Andrews & Withey, 1976; Campbell, 1981; Campbell, Converse, & Rodgers, 1976; Bubolz, et al, 1980; Sontag, Bubolz, & Slocum, 1979).

Several researchers have found that stress leads to depression (Caplan, 1979; Holmes and Rahe, 1967; Perlin, et al, 1981; Selye, 1956, 1980). However, the relationship of family stressors, within the context of a family resource management model, to quality of life has not been studied. The intent of this research is to elucidate this relationship.

METHODOLOGY

The data for this research were part of a longitudinal regional research project involving Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Missouri, and Nebraska. The focus of the project (CSRS Project NC 164) was on family stress. Support was provided by the Cooperative Research Service of the USDA and the Agricultural Experiment Stations of the participating states.

Sample

The sample was randomly selected from a marketing corporation's list of families in the middle years of the family cycle, defined as wife age 35-65, who had at least one child. Each state selected a Standard Metropolitan Statistical Area (SMSA) with a population of 200,000 or more for the site for the urban sample. The rural sample

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was drawn from a county not part of or adjacent to a SMSA. Sampling areas were representative of the state in terms of median family income and educational attainment of persons age 18 and older. Because of the primary interest of the research team, rural families were over-represented.
Two survey instruments were mailed to each family, one for each husband and wife in February 1983. In February 1985, husbands and wives who had responded in 1983 were mailed new survey instruments. The overall 1985 response rate was a little over 50 percent.

The present study utilizes the data from the 634 married women in the 1985 survey. Two-thirds of the women lived in rural areas or towns with population less than 50,000. Ages ranged from 37-67; the median educational level was 12 years; median income was between $35,000 and $40,000.

VARIABLES

Dependent Variable

The dependent variable, overall quality of life, was measured using the Campbell, Converse, and Rodgers (1976) Index of Well-Being. It was obtained by adding the mean score of 8 statements in a semantic differential scale concerning feelings about present life (e.g., a scale of 1-7 relative to life being boring-interesting, miserable-enjoyable, and useless-worthwhile) to the weighted (1.1) score of satisfaction with life as a whole. The latter was measured on a 7 point scale ranging from completely satisfied to completely dissatisfied.

Independent Variables

Independent variables included measures of demands, such as family and economic stressors, and measures of resources such as level of health, income, wife's employment status, and education.

Family level of income was the category of total family income before taxes from all sources in 1984. Educational level was years of school completed. A health symptoms variable was constructed as an indicator of level of health. It was computed by adding scores of 12 statements relating to health such as trouble sleeping, had headaches, and been depressed. Each statement had a possible score of 1 to 5 (never to almost always) with the total possible score ranging from 12 to 60. A higher score represented a lower level of health.

Employment status had three categories: working full-time was 35 or more hours a week; part-time was less than 35 hours a week; other included unemployed, homemakers, retired, student, and disabled respondents. Number of dependents was the number of persons (other than respondent) in the household who depended upon the family income for at least 25 percent of their support.

Family and economic stressors, serving as indicators of demands, were constructed as 5 composite variables from 26 of the 43 items in the Family Life Events Scale in the questionnaire. This scale was an adaptation of the Family Inventory of Life Events (FILE), an instrument designed to measure family stress (McCubbin, Patterson, and Wilson, 1983). It includes events related to family transitions and relations, finances, health, school, and law. Respondents were asked to indicate if certain events had occurred in their families within the last two years. If so, they identified the degree to which the event was disturbing, using a five point scale ranging from not to extremely disturbing. The values for the items in each composite variable were added to create a score.

The five composite variables were family conflict, problems with children, and economic, time, and health stressors. Family conflict consisted of events and stress related to marital separation and relations with married children, relatives, or in-laws. Kid problems consisted of events and stress related to adult children having problems achieving independence; member moving back home; pregnancy of unmarried member; member demanding new privileges; member dropping out of school.

Economic stressors consisted of events and stress related to nine items: job loss by major wage earner; family member's job demotion or retooling; financial assistance required by own or husband's parents or siblings; cut in family income; going into debt; major financial loss; going on welfare; having to increase debt; forced to dip into savings.

Health stressors was a composite variable consisting of scores from these items: major wage earner has serious illness or accident; child has serious illness; grandparents require direct care or becomes institutionalized; a family member has serious emotional problems. The time stressors variable was constructed from the following items: member accepts time consuming volunteer work, change in member's work schedule, outside activities draw adult away from home, household chores pile up.

A variable related to perception of community changes and the effects of those changes was in the original model but was dropped because there was little variation. Most respondents said there were no changes.

Other Variables

Three variables were employed as dependent variables in some regression equations and as independent variables in others because of their hypothesized intervening effect. These were: income adequacy, marital happiness, and quality of family life.

Income adequacy concerned the extent to which the respondent thought her income was enough to live on presently. Responses ranged from 1= can't buy necessities to 5= can afford everything we want and have some left.

Marital happiness was measured with a statement about how happy respondent was with her marriage, ranging from 1, extremely unhappy, to 7, extremely happy. Overall quality of family life was measured by the Kansas Family Life Satisfaction Scale (Schumm, et al, 1986). It consisted of the mean score of 4 statements regarding satisfaction with family, relationship with spouse, relationship with children, and children's relationships with each other. Each statement was measured on a 1 to 7 scale, from completely dissatisfied to completely satisfied.

ANALYSIS

Regression and Path Analysis

Step one of the analysis involved multiple regression analysis to help elucidate the complex relationships among the variables. Step two employed a path analysis model which depends on the strength of the relationships found among the variables tested in step one. Path analysis provides a method of analyzing the decomposition of the effects of predictor variables on the variable of interest and the interpretation of linear relationships among selected variables, by assuming a prior causal ordering provided by the researchers, based on the theoretical model. Assumptions underlying path analysis were tested for violations. Linearity between the independent and dependent variables was found. High multicollinearity among the independent variables was not found, except for a higher than acceptable correlation between marital happiness and quality of family life. Therefore, in the final equation in which quality of life was the dependent variable, marital happiness was excluded. No correlations among the residuals were found, and a normal distribution of residuals was observed.

The basic path model is diagrammed in Figure 2.

The five structural equations providing the basis for the analyses follow:

$$(1)\ X10 = \beta_{10.6} X6 + \beta_{10.7} X7 + \beta_{10.8} X8 + \beta_{10.9} X9 + \varepsilon_1$$

$$(2)\ X11 = \beta_{11.1} X1 + \beta_{11.2} X2 + \beta_{11.3} X3 + \beta_{11.4} X4 + \beta_{11.5} X5 + \beta_{11.6} X6 + \beta_{11.7} X7 + \beta_{11.8} X8 + \beta_{11.9} X9 + \beta_{11.10} X10 + \varepsilon_2$$

$$(3)\ X12 = \beta_{12.1} X1 + \beta_{12.2} X2 + \beta_{12.3} X3 + \beta_{12.4} X4 + \beta_{12.5} X5 + \beta_{12.6} X6 + \beta_{12.7} X7 + \beta_{12.8} X8 + \beta_{12.9} X9 + \beta_{12.10} X10 + \beta_{12.11} X11 + \varepsilon_3$$

$$(4)\ X13 = \beta_{13.1} X1 + \beta_{13.2} X2 + \beta_{13.3} X3 + \beta_{13.4} X4 + \beta_{13.5} X5 + \beta_{13.6} X6 + \beta_{13.7} X7 + \beta_{13.8} X8 + \beta_{13.9} X9 + \beta_{13.10} X10 + \beta_{13.11} X11 + \beta_{13.12} X12 + \varepsilon_4$$

$$(5)\ X14 = \beta_{14.1} X1 + \beta_{14.2} X2 + \beta_{14.3} X3 + \beta_{14.4} X4 + \beta_{14.5} X5 + \beta_{14.6} X6 + \beta_{14.7} X7 + \beta_{14.8} X8 + \beta_{14.9} X9 + \beta_{14.10} X10 + \beta_{14.11} X11 + \beta_{14.13} X13 + \varepsilon_5$$

Where, X1 = Level of Income
X2 = Economic Stressors
X3 = Number of Dependents
X4 = Employment Status
X5 = Years of Education
X6 = Kid Problems
X7 = Time Stressors
X8 = Health Stressors
X9 = Family Conflict
X10 = Health Symptom
X11 = Income Adequacy
X12 = Marital Happiness
X13 = Quality of Family Life
X14 = Quality of life

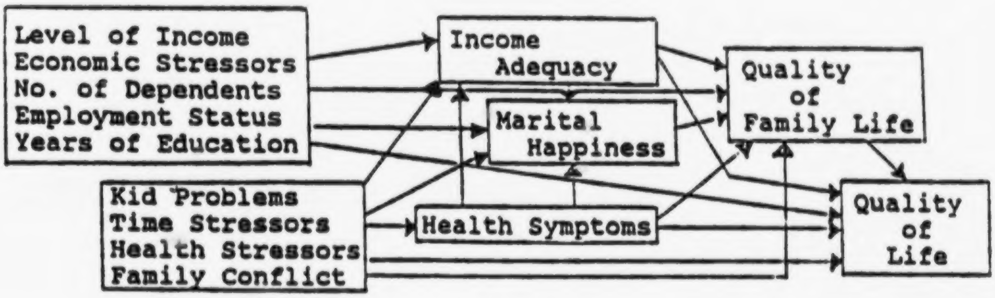
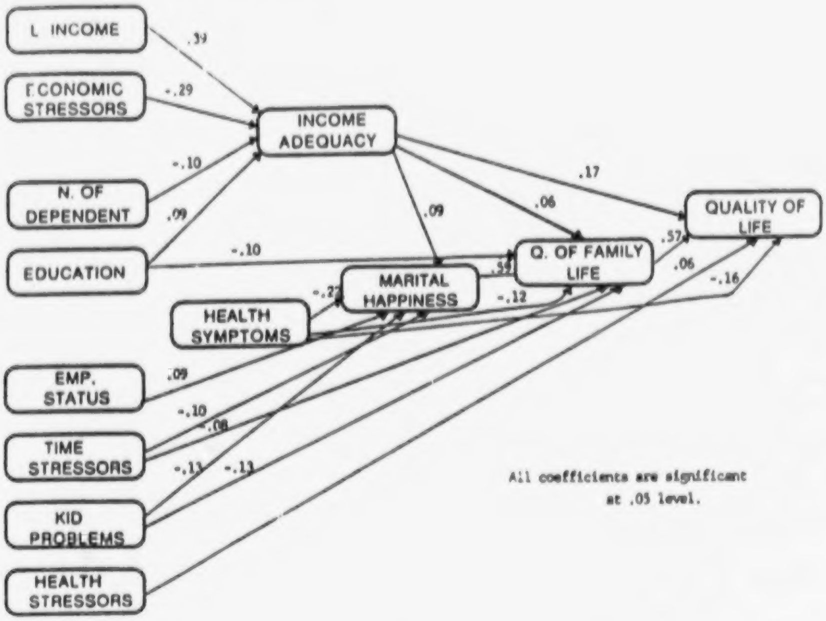


Figure 2. Basic Path Model

Figure 3 shows the path diagram of the model.



All coefficients are significant at .05 level.

Figure 3. Path Diagram of Quality of Life

All analyses employed the Statistical Package for the Social Science (SPSS-X) computer program. The analysis of the five equations involved a hierarchical exclusion method of multiple regression.

Quality of family life was the strongest direct predictor (=.57) of quality of life for the women. The following variables also had a direct influence, but to a lesser extent: income adequacy (=.17), health symptoms (=-.16), and health stressors (=.06). Forty seven percent of the total variance in quality of life was explained by the four direct predictors. Notice the negative influence of health symptoms on quality of life, indicating that the more symptoms and the greater their severity (frequent headaches and flu) the lower the women perceived their quality of life.

Table 1 shows the direct, indirect, and total effects of the variables. The effect of marital happiness was mediated through quality of family life. Its total effect, however, was high (.34).

Health symptoms not only directly impacted on quality of life but also on quality of family life, marital happiness, and income adequacy; thus, mediated by these three variables, its total effect on quality of life (-.30) placed it third in magnitude.

Income adequacy, a direct predictor of quality of life for the women, was itself directly influenced by level of income, economic stressors, education, and number of dependents. The total effect of level of income on quality of life was significant but small (.08), mediated by income adequacy, marital happiness, and quality of family life.

Income adequacy, health symptoms, employment status, kid problems, and time stressors were direct predictors of marital happiness and indirectly influenced quality of family life as well as quality of life.

Although family conflict was hypothesized to be a significant indirect predictor of quality of life for the women, it was not.

DISCUSSION

A unique contribution of this research was examination of the relationship of family stressors to the quality of life of middle-age women. Four of the stressor variables in the study had an effect on their quality of life. Health stressors had a direct impact, while economic, time, and kid stressors had indirect influences. Economic stressors impacted through perceptions of income adequacy. Problems with children affected evaluation of marriage and family life. All of these stressors may be especially acute in

Table 1.
Decomposition of Effects of Significant Predictors of Quality of Life

Variables	Path Coeff. Direct Effect	Indirect Effect	Total Effect
Quality of Family Life	.57	-----	.57
Income Adequacy	.17	-----	.17
Health Symptoms	-.16	-.07 (thr. Marital Happiness & Quality of Family Life) -.07 (thr. Quality of Family Life)	-.30
Health Stressors	.06	-----	.06
Marital Happiness		.34 (thr. Quality of Family Life)	.34
Level of Income	N.S.a	.08 (thr. Income Adequacy,Marital H. &Quality of Family Life)	.08
Economic Stressors	N.S.	-.07 (thr. Income Adequacy)	-.07
Employment Status	N.S.	.04 (thr. Marital Happiness & Quality of Family Life)	.04
Kid Problems	N.S.	-.04 (thr. Marital Happiness & Quality of Family Life) -.07 (thr. Quality of Family Life)	-.11
Number of Dependents	N.S.	-.02 (thr. Income Adequacy & Marital H.)	-.02
Time Stressors	N.S.	-.06 (thr. Quality of Family Life) -.03 (thr. Marital Happiness & QFL)	-.09
Education	N.S.	-.04 (thr. Income Ad., Marital H., & QFL)	-.04

a Not Significant

the middle years of life when children are becoming independent and launched, personal health problems increasing and demands on time and economic resources high.

Also of special interest is the subjective variable, income adequacy. Three variables influencing it were objective measures of available resources and demands (level of income, number of dependents, and education). They did not directly affect quality of life. Rather, the women's assessment of resource availability relative to demands, income adequacy, made a big difference in the quality of their lives. The gap between an individuals's present situation and her aspirations may also be subsumed by income adequacy (Campbell, et al., 1976). This research illustrates the utility of using both objective and subjective indicators of resources.

Health was an area which had a large impact on quality of life. This is consistent with previous research. The finding that the number of health symptoms was significantly related to overall quality of life, as well as to evaluations of marriage and family life, indicates that this is an especially sensitive indicator of quality of life and influences many life domains. It may be especially salient to those in the middle stage of life. Health symptoms represent level of health and ability to respond to stressors. In the model used here, health symptoms were conceptualized as independent variables in relation to marriage and other family variables. In actuality, there probably is an interactive effect. Illness or symptoms of poor health can affect family relationships, creating stress which feeds back and impacts further on health symptoms. Future research should examine these relationships from a nonrecursive model.

Health stressors as measured by illnesses of other family members also had some effect on quality of life, but to a lesser extent than health symptoms. One's own health seems to make a bigger difference to one's quality of life than the health or illness of other persons. The findings related to the strong relationship of family life to quality of life are consistent with several research studies over the past 15-20 years. They attest to the continuing significance of intimate interpersonal relationships to well-being. Likewise, the importance of assessment of marriage to quality of family life was reinforced. Marital happiness may be an especially salient factor in middle-aged women's assessment of their family life.

CONCLUSIONS

This research has demonstrated the usefulness of using a family resource management model to study quality of life. From this perspective perceived quality of life can be considered an assessment of the extent to which demands are met with available resources. Stressor events represent critical demands upon the family system that impact quality of life. The findings of this research have identified three major domains, representing demands and resources, which affect quality of life of middle age women. These are: family relationships, income adequacy and health. This research has demonstrated the usefulness of broadening the concept of resources to include such social aspects as relationships within the family. Quality of life is dependent not only on objective conditions and resources but also on subjective evaluations of these conditions in relation to demands and aspirations.

REFERENCES

Ackerman, Norleen and Beatrice Paolucci (1983). "Objective and Subjective Income Adequacy: Their Relationship to Perceived Life Quality Measures," Social Indicators Research. 12: 25-48.

Andrews, Frank M. and Stephen B. Withey (1976). Social Indicators of Well-Being. Plenum Press, New York.

Berry, Ruth E. and Flora L. Williams (1987). "Assessing the Relationship between Quality of Life and Marital and Income Satisfaction: A Path Analytic Approach," Journal of Marriage and the Family, 49 (February): 107-116.

Bubolz, Margaret, Joanne Eicher, Sandra Evers, and M. Suzanne Sontag (1980). "A Human Ecological Approach to Quality of Life: Conceptual Frame-work and Results of a Preliminary Study," Social Indicators Research. 6 (Winter): 103-136.

Campbell, Angus, Philip Converse, and Willard Rodgers (1976). The Quality of American Life. Russell Sage Foundation, New York.

________ (1981). The Sense of Well-Being in America. McGraw-Hill, New York.

Caplan, R. D. (1979). "Social Support, Person-Environment fit and Coping," in Mental Health and the Economy, L.A. Ferman & J. P. Gordus (Eds.). Kalamazoo, MI, Upjohn Institute.

Deacon, Ruth and Francille Firebaugh (1988). Family Resource Management. Allyn Bacon.

Hafstrom, Jeanne L. and Marilyn M. Dunsing (1973). "Level of Living: Factors Influencing the Homemaker's Satisfaction," Home Economics Research Journal. 2: 119-132.

Holmes, Thomas and Richard H. Rahe (1967). The Social Readjustment Scale," Journal of Psychosomatic Research. 9 (11): 213-218.

McCubbin, Hamilton, Joan M. Patterson, and Lance R. Wilson (1987). "FILE Family Inventory of Life Events and Changes," in Family Assessment Inventories for Research and Practice, Hamilton McCubbin and Anne I. Thompson, (Eds.). The University of Wisconsin, Madison.

Perlin, Leonard I., Morton A. Lieberman, Elizabeth Menaghan, and Joseph T. Mullan (1981). "The Stress Process," Journal of Health and Social Behavior. 22: 337-356.

Schumm, Walter, Eric McCollum, Margaret Bugaighis, Anthony Jurich, and Stephan Bollman (1986). "Characteristics of the Kansas Family Life Satisfaction Scale in a Regional Sample," Psychological Reports. 58: 975-980.

Selye, Hans. (1956). The Stress of Life. New York, McGraw-Hill.

________ (1980). "Stress, Aging, and Retirement," Journal of Mind and Behavior. 1: 93-110.

Sontag, M. Suzanne, Margaret Bubolz,and Ann Slocum (1979). Perceived Quality of Life of Oakland County Families: A Preliminary Report. Research Report 380, (July) Home and Family Living, Michigan State University Agricultural Experiment Station.

DETERMINANTS OF THE USE OF LOW-FLOW FIXTURES IN APARTMENTS IN AN ARID CLIMATE

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Abstract

The purpose of this study is to analyze the determinants of employing low-flow water fixtures in apartments in order to conserve interior water use. The fixtures are low-flow showerheads, faucets and toilets. Ranked probit analysis is used to explain the presence of each of these fixtures in all, some or none of the apartment units within each complex. The demand for water conservation is derived from both the firm's efforts to cost minimize and consumers' desires for water-related services subject to their prices. The results show that the economic variables do not affect the use of low-flow water fixtures. Their use is more related to other water policies used in the complex, attitudes of tenants, apartment size and characteristics of the staff and manager.

INTRODUCTION

Water supply and quality are of increasing concern in the U.S. and in many other parts of the world. Maintaining adequate water supplies in the face of growing population and rising standards of living is particularly problematic for Western states. Individual apartment complexes use far more water than single family residences but may be considered to operate as a case of market failure because tenant demand for water is unrelated to price. This is because (with rare exceptions) tenants do not pay their own water bills directly. Constraints to water use may be provided by the apartment ownership and/or management in their attempts to minimize costs or by ecological consciousness of the tenants.

Little or no research has focused on water conservation in the rapidly growing number of apartments although previous studies have examined water conservation of residential consumers living in detached dwellings. To meet water conservation goals, however, municipal providers will be forced to find ways to encourage conservation in apartments.

The purpose of this study is to analyze the determinants of one method of conserving interior water use in apartments, the use of low-flow water fixtures. The fixtures are low-flow showerheads, faucets and toilets. Ranked probit analysis is used to explain the presence of each of these fixtures in all, some or none of the apartment units within each complex.

MODEL OF ADOPTION

We posit that conservation is a process that occurs over time and can be effective in curbing the demand for water in apartments. Evidence for the latter assumption comes from numerous studies showing that the demand for residential interior water use is somewhat price elastic (e.g., Howe and Linaweaver, 1967). Water-saving features may be adopted when apartments are built or retrofitted all at once or gradually over time as the apartments are remodelled or refurbished. Thus the dependent variable in this study measures whether none, some or all of the apartments in the complex have water-saving fixtures.

Toilets, showerheads and faucets account for approximately 75% of interior water consumption in the home and water consumption declines in the order stated (Winkler, 1982). Use of water-saving toilets or toilet tank displacements, low-flow showerheads and faucets are estimated to save 50 percent or more of water consumed by ordinary fixtures (Javits, 1979).

The demand for low-flow fixtures in apartments is derived from the firm's goals of minimizing cost and maximizing profit by providing a service demanded by consumers. This implies a balance between expected savings in water bills and the extra costs of the fixtures and their installation. Other costs include those of additional maintenance over time and increased numbers of tenant complaints. Furthermore, the efforts to minimize costs must be weighed against the potential effect on demand for the apartments. Considering the importance of such factors as the prices of complements (e.g., travel to work and recreation), the price of the space and significant amenities, however, the demand for apartments would be only slightly influenced by consumers' preferences regarding low-flow fixtures.

The demand by consumers, in this case tenants, for low-flow features in apartments is influenced by whether they pay directly or indirectly for water. For those who pay indirectly for water, tenants' demand for low-flow fixtures would be derived by the desire to minimize apartment rent. This would especially hold if the price of water were a significant percentage of the rent. However, because the price of water is usually so nominal that it comprises a small fraction of the rent, its influence may be entirely overlooked by tenants who pay indirectly. On the other hand, if the tenant holds strong preferences for conserving water because of environmental or other concerns, she/he would have a derived demand for low-flow fixtures to help achieve his/her environmental objectives.

In apartments that charge directly for water, tenants have the incentive to provide low-flow fixtures themselves or request them from the landlord.

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Furthermore, landlords would have greater incentive to install them to attract cost-conscious tenants and would receive fewer complaints about them. Tenants would have the incentive to help maintain them and thus would lower maintenance costs to landlords as well.

TABLE 1. Sample Characteristics, N=409

Variable	Definition	Mean or Percent	Expected Direction
Economic incentives for retrofitting			
TENPAY	Apartment charges tenant for water directly (0,1)	4.2%	+
PRICE	High and low marginal price (0,1)	1.7%	-
Apartment Complexes			
NTOTAPT	Size of complex in number of units	73.94	+
Manager's Conservation Practices			
LEAKCK	Frequency with which staff checks leaks	5.76	+
CARWASH	Complex permits car washing on premises (1,0)	25.7%	-
INFORM	Efforts made by the complex to inform tenants about water use	1.38	+
Non-economic constraints to retrofitting			
GRIPE	Tenants complain about low-flow fixtures (1,0)	9.3%	+
Factors Affecting Cost of Retrofits			
REMODEL	Apartments have been remodeled in last few years (0,1)	17.1%	+
MGRFULL	Manager works at complex full-time (1,0)	61.4	+
MGRRES	Manager resides in complex (1,0)	55.3%	+
MGRHLP	Size of support staff	1.25	+
Managers or Owners			
MGREDUC	Manager's level of education	5.77	?
MGRAGE	Age of manager	44.12	+

The literature on consumers' adoption of water-saving and energy-saving retrofits indicates that a variety of factors influence the process. We assume they also influence the adoption by apartments because adoption is derived both from consumer demand and the firm's desire to minimize production costs. Thus we hypothesize that the adoption of water-saving retrofits in apartments will be determined by benefits and costs that are important to consumers as well as landlords. The list of independent variables and their hypothesized direction of effects is shown in Table 1.

Benefits of making low-flow retrofits include direct economic incentives to the landlord and/or tenant. Other influences on water use include characteristics of the apartment complex, proclivity of managers or owners to conserve, and tenant preferences for low-flow fixtures.

Direct economic incentives are measured by two dummy variables. The first measure of economic incentives to conserve indicates whether tenants pay directly for their water consumption (coded 1 for direct payment). The second variable signifies high and low water rates, reflecting the two water districts comprising the sample (coded 1 for the lower rate). The rates in the larger district are much higher than those in the smaller area. Use of low-flow fixtures is expected to rise with each of these variables.

The size of the complex, measured by the total number of apartments, is used to proxy other water-using characteristics of the complex and thus is expected to be positively related to the use of low-flow fixtures. Complex size is collinear with such variables as type of landscaping and number of swimming pools, two variables that are extremely salient in determining water use. The landlord's proclivity to conserve is measured by three variables: 1) Allowing car washing on the premises; 2) degree of checking for leaks; and 3) degree of information about water conservation provided by landlords to tenants. Car washing is expected to be negatively associated with and the other two positively related to the use of low-flow fixtures. Tenant preferences for low-flow fixtures are measured by managers' reports that tenants complain about low-flow fixtures. The likelihood of tenant complaints will rise with fixture use.

Costs of retrofitting constrain efforts to conserve. These are proxied herein by two factors. The first factor is whether the complex has been substantially remodelled in the previous few years. The second factor is labor availability. This is indicated by whether the manager works at the complex full- or part-time, the number of support staff, and whether the manager resides on the premises. Each of these is expected to increase the use of low-flow fixtures. The characteristics of the landlord are considered to be facilitators which better enable her or him to perceive the range of relevant benefits, costs, and discount rates (Hausman, 1979), and to derive methods for acting on the results of the decision to invest in water-saving equipment. These include the number of years of education and the age of the manager. The effect of education is not predicted because of the ambiguity of findings in the literature (e.g. Cunningham and Lopreato, 1977; Hamilton, 1983). Counter to previous findings with respect to age, the use of water fixtures is posited to rise with age because older landlords have had more time to retrofit gradually.

PROCEDURE

Analysis

Ordered probit analysis was used to evaluate the impact of the explanatory variables on the dependent variables, uses of low-flow fixtures (defined in Table 2). Ordered probit analysis was used because each of the three dependent variables, use of low-flow showerheads, faucets and toilets, has three ordinal level categories: use in none, some or all of the apartments in each complex (Hanushek and Jackson, 1977).

TABLE 2. Dependent Variables

Variable	Definition	Percent
SHWRNONE	No units have water-saving showerheads (1,0)	44.8%
SHWRSOME	Some units have water-saving showerheads (1,0)	20.2%
SHWRALL	All units have water-saving showerheads (1,0)	35.1%
FAUCNONE	No units have water-saving faucets (1,0)	64.1%
FAUCSOME	Some units have water-saving faucets (1,0)	13.0%
FAUCALL	All units have water-saving faucets (1,0)	23.0%
WCNONE	No units have water-saving toilets (1,0)	68.7%
WCSOME	Some units have water-saving toilets (1,0)	7.4%
WCALL	All units have water-saving toilets (1,0)	24.0%

Data and Sample

The units of analysis are apartment complexes and their managers or owners. These data were collected as part of a larger project to assess the determinants of water demand in apartments. Consumption data and a sampling frame of apartment complexes were provided by the primary water utility in Tucson, Arizona. We employed stratified random sampling to oversample larger complexes and those in low and high income census tracts. All of the apartments in a small, but growing, cooperative water district were also included in the sampling frame. Telephone interviews were conducted in October 1988 with managers or owners of the sample apartments. This produced 409 completed interviews over a two week period which amounts to a 69% response rate. The response rate seemed to have been boosted by the incentives offered because the interviews ranged between approximately 20 and 40 minutes each. The incentives were department store gift certificates purchased with project funds and dinners-for-two donated by local restaurants. Approximately 1 percent of the owners/managers received these gifts. The content validity of the questions on the survey was evaluated with a review of literature, peer review, review by the grantor, local water resource experts and finally, field tests of apartment managers and owners.

General Description of Apartments, Landlords and Tenants

Apartments

The complexes range from 2 to 500 units. Approximately 26% of the sample complexes contain fewer than 10 apartment units; 34% have 10 to 49 units; 13%, 50-99 units; and 27%, between 100 and 500 units. The apartments tend to be small; the most common apartment size (1/3 of the sample) is three rooms, (excluding bathrooms, porches, balconies, foyers, halls, half-rooms and storage areas). Twenty-nine percent had 4 rooms while 20% had only two. The remainder have 1, 5, or 6 rooms. Seventy-four percent of the sampled apartments have one bathroom, while another 18% have 2 bathrooms.

Very few of the apartments in the sample charge tenants explicitly for water, and even fewer report individual unit water meters. Ninety-six percent of managers report that tenants do not pay individual water bills, and only 2% report that apartments are individually metered.

Landlords

Managers comprise 62% of the sample, owners 29%, and others (such as owner's or manager's spouse), 9%. The majority of owners (58%) have owned their apartment complex for less than ten years. When managers were asked about their authority to make water-saving investments in their apartments, 18% of the 256 who responded stated that they could proceed without specific owner consent, another 22% reported that they could proceed if the cost were low, while the remaining 61% indicated that specific owner approval would be required.

Almost 2/3 of the managers work at the complex full-time, while 20% manage more than one apartment complex, and 20% work at another job in addition to apartment management. Staff size averages 1.25. Living in the apartment being managed is likely to provide more manager presence, and the potential for more conservation-oriented management. Fifty-five percent of the managers live in the complex.

The largest group of managers has some college education, while the second and third largest groups have graduated either from high school or college. Manager's ages cover a wide span, from 19 to 86 years. Forty-five percent are age 19 to 40, and 40% are 41 to 60. Most of the managers are female (63%).

Tenants

While the units of analysis in this paper are the apartment complexes and their owners/managers, the tenants are described herein to provide context. The typical tenant had lived in the same apartment for a year or less, yet some tenants reported having lived in the same location for as long as 23 years. They have resided in the State for 5 years and consider themselves permanent residents of Tucson. Only 9% of the respondents are winter visitors while 19% are students. Respondent ages ranged from 17 to 96, with a median age of 31. Forty-one percent of the respondents report working full-time, 16% are retired, and 16% are students. Forty-four percent had completed some college, 16% had graduated each from high school and college. Nineteen percent reported having done some graduate work or having completed a graduate degree.

The survey included tenants with a wide range of incomes; median household income ranged between $13,000 and $16,000. Monthly rents ranged from zero (some tenants worked for their rent) to $1650 per month, with a median rent of $340. Only 5% of the respondents report paying for water, while 21% pay for natural gas and 80% pay for their own electricity.

RESULTS

The model explains a statistically significant percentage of the variance in all three of the dependent variables: use of water-saving showerheads, faucets, and toilets. This is indicated by the chi square statistics (Table 3). The rho statistics range between .069 and .072, which indicate that the model fits nominally considering that an excellent fit is implied by values between .2 and .4 (Hanushek and Jackson, 1977).

Benefits

The measures of direct economic incentives, whether or not tenants pay directly for their water and the price proxy, are not statistically significant determinants of the use of low-flow showerheads, faucets or toilets (Table 3).

Complex size is positively and significantly related to use of low-flow showerheads and approaches significance ($p \leq .11$) on the other fixtures. The marginal effects suggest that smaller complexes are slightly more likely to have no water-saving showerheads. The results depend upon the statistic used to calculated the average, however. In one case we used the mean and in another, the median, because the mean was skewed to the high end of the distribution. Across all fixtures, use in small complexes reflects that of the median-sized complex but shows that the probabilities for all or no use vary from that for the mean-size apartment complex. For example, the probability that the mean-size complex uses no low-flow showerheads is .44 versus .48 and .41 for small and large complexes, respectively. The probability of the average-size complex using no low-flow faucets is .65, versus .68 and .63 for small and large complexes with no low-flow faucets. The probability of no water-saving toilets for the mean sized complex is .71 compared to .67 and .74 for small and large complexes, respectively.

Managers' attempts to conserve are posited to reflect a conservation orientation. The results of the individual measures of conserving are ambiguous, however. Of these three variables, permission to wash cars has the most consistent effect. Those who allow car washing are less likely to use water-saving showerheads and faucets than those disallowing on-site car washing. Those purporting to check leaks most often are more likely to use low-flow showerheads but are less likely to have low-flow faucets. Neither checking leaks nor washing cars is related to the

TABLE 3. Results of the probit analyses

Independent Variables	Showers Coef	Showers t[a]	Faucets Coef	Faucets t	Toilets Coef	Toilets t
TENPAY	-0.647	-1.424	-0.045	-0.102	-0.443	-0.942
PRICE	-0.399	-0.808	-0.627	-0.796	0.753	1.457
NTOTAPT	0.002	2.095 **	0.001	1.574	-0.002	-1.560
LEAKCK	0.048	2.126 **	-0.063	-2.609 ***	0.014	0.556
INFORM	0.035	0.973	0.007	0.201	0.067	1.769 *
CARWASH	-0.388	-2.421 **	-0.399	-2.263 **	-0.080	-0.418
GRIPE	0.438	1.628 *	0.248	0.966	0.032	0.105
REMODEL	-0.054	-0.300	-0.196	-1.047	0.176	0.881
MGRFULL	0.168	0.982	0.345	1.776 *	0.218	1.101
MGRHLP	-0.079	-0.807	-0.187	-1.762 *	0.036	0.340
MGRRES	0.358	2.380 **	0.173	1.052	0.496	2.871 ***
MGREDUC	-0.012	-0.272	-0.092	-2.030 **	-0.012	-0.258
MGRAGE	0.005	0.946	0.007	1.303	0.015	2.558 **
INTERCEPT 1	-0.547	-1.189	0.151	0.311	-1.655	-3.181 **
INTERCEPT 2	0.604	9.260 ***	0.399	6.427 ***	0.258	5.199 ***
Chi Square Statistic	52.37 ***		43.24 ***		38.04 ***	
Rho (Pseudo-R^2)	.072		.070		.069	

*Significant at 0.10 level
**Significant at 0.05 level
***Significant at 0.01 level
[a]These are asymptotic t-ratios.

presence of low-flow toilets but those who claim to inform tenants about saving water are more likely than others to have them.

Apartment complexes with managers who have an average orientation toward conserving have 44, 24 and 33 percent of the apartments with none, some and all water-saving showerheads. Whereas those in which tenants are not allowed to wash cars, leaks are checked most regularly and which provide information about saving water, have only 23 percent with no low-flow showerheads, 22 percent with some and 55 percent with total coverage. In contrast, non-conservers have 68, 18 and 14 percent with none, some and total coverage.
Those with a conservation orientation are less likely to have no low-flow toilets (50%), more likely to have some (10%) or total coverage (39%) than the average complex (71%, 8%, and 21%). They were also more likely to have water-saving toilets than those with lax rules and operations.

Complexes with tenants who complain about low-flow fixtures are more likely to have installed low-flow showerheads in their apartments than those not reporting tenant complaints. Tenant complaints are unrelated to use of faucets and toilets, however. This pattern coincides with analyses of tenant reports from the larger dataset which show that of the interior low-flow features, tenants are least satisfied with low-flow showerheads.

Costs

Factors affecting costs of retrofits, whether apartments had been remodeled and staff capabilities, had mixed effects. Remodeling was not significant in any of the equations. If the manager resides in the complex the use of all types of conservation devices is likely to be higher than if she or he does not. Residence is significant only for showerheads and toilets, however.

Complexes with managers working full-time and larger staffs were posited to have better coverage of water-saving devices than those with part-time managers and smaller staffs. Indeed, the effect of the full-time variable was positive across devices but significant only for faucets. The staff variable was significant for faucets also, but the effect was negative. These two variables may be picking up some of the effect of apartment size. However, the tendency for complexes with smaller staffs to conserve may reflect a strong disposition toward cost minimization on the part of the owners of small and medium-sized apartments.

The marginal effects show that the probability of using low-flow faucets was the same in complexes with full-time managers, the largest staffs and managers-in-residence as those in complexes with the opposite staff characteristics. The probability of having full use of water saving showers and toilets did increase, however, from .25 and .10, respectively for those with less management presence to .36 and .33 for those with maximum presence.

Facilitators

The manager's or owner's personal characteristics also have some influence on the use of water-saving features. As years of education decline use of water-saving fixtures increases, although only low-flow faucets were significant. Use of water-saving toilets increased significantly with managers'/owners' ages and the effect for the other fixtures was also positive.

An increase of one standard deviation in managers' ages increased the probability of using all types of water-saving devices, while a similar decrease caused a drop in these probabilities. The probabilities of not using low-flow showerheads, faucets, or toilets increased from .41, .62 and .63 for the older managers, to .46, .69 and .78, respectively, for the younger managers.

CONCLUSIONS

Conservation of water in arid regions has depended largely on economic incentives. These results suggest, however, that water prices are too low to effect the use of water-saving fixtures in apartments and thus need to be raised. Alternatively, these findings also imply the necessity of employing incentives other than price in order to produce desired levels of conservation by apartment managers and tenants.

Water conservation policies of apartment complexes seem to be interrelated. For example, car washing was more likely permitted in apartments with fewer low-flow fixtures. Thus water utilities could set a goal to encourage apartments to begin conserving with some assurance that preliminary efforts would spawn further conservation.

The limited types of tenant complaints about low-flow fixtures implies that tenants generally accept them. Use of low-flow showerheads would probably be more successful if managers informed tenants about how to clean them and if the staff also cleaned them during routine maintenance.

That older managers or owners are more likely to use water-saving features than their younger counterparts may reflect the length of time over which they've been able to make gradual capital improvements, or greater environmental awareness. It may also result from the large number of college students managing apartments who concentrate on their studies rather than on maintenance. This suggests that high-cost compared with low-cost managers (older more experienced people versus students) may actually be less expensive than they appear because the extra effort they invest in their jobs helps to minimize costs, including water bills.

REFERENCES

Cunningham, W. H. and Lopreato, S. C. (1977). Energy Use and Conservation Incentives: A Study of the Southwestern United States, New York: Praeger.

Hamilton, L. C. (1983). "Saving Water," Sociological Perspectives, 26(4):355-374.

Hanushek, E. A. and Jackson, J. E. (1977). Statistical Methods for Social Scientists, New York: Academic Press.

Hausman, J. A. (1979). "Individual Discount Rates and the Purchase and Utilization of Energy-Using Durables," The Bell Journal of Economics, 10:33-54.

Howe, C. W. and Linaweaver, F. P., Jr. (1967). "The Impact of Price on Residential Water Demand and Its Relation to System Design and Price Structure," Water Resources Research, 3(1):13-32.

Javits, T. (1979). The Integral Urban House, San Francisco, CA: Sierra Club Books, 88-109.

Winkler, R. C. (1982). "Water Conservation," in E. Geller, R. Winett, and P. Everett (Eds.), Preserving the Environment, New York: Pergamon Press, 262-287.

QUALITY OF LIFE: A DISCUSSION

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This is a discussion of the three papers presented on quality of life. The papers are viewed as works in progress and critiqued thusly. Indications are made in terms of where these papers individually, as well as collectively, lead us in understanding more about the quality of life. Several suggestions are offered.

My purpose is to stimulate further thought among the authors and audience about the three papers presented. Basically, I want to provide feedback on "where to go from here" rather than just critique these as "finished products." The guiding question is, what did this paper stimulate in me? What am I thinking about that I wasn't thinking about before I read the paper? I am also doing this as an "outsider" of sorts (a symbolic interactionist interested in quality of family life). I might have a different perspective or "axe to grind." Authors and audience should keep this in mind.

As a general statement, all of the papers are well done. They set forth a problem and go about seeking answers in relatively sophisticated fashions.

The paper by Longstreth and Billings is on an important topic -- effects on quality of life of those directly affected (apartment tenants) as well as indirectly (all of us), by conservation of natural resources. However, my understanding of the relevancy of their findings is limited by the way the current draft of the manuscript is crafted. Parts of the paper are hard to follow (for example, the same variable names are not used consistently throughout the paper). Also, the source of the data on apartment dwellers is unclear. Was this provided by the managers or through the larger study mentioned?

In the presentations of results section, the authors appear to switch back and forth between the probit analysis and more descriptive analysis. I found this confusing and suggest that it be done more clearly in the next draft. Also, a table or tables with this other information would help. I kept trying to find this in the present tables.

As I read, I kept thinking that this was an interesting topic, but I wish I knew more about it. A better "situating" of the problem would help. Why is this an issue? Is this a "hot" political issue in the West? Are people asking for or opposing the use of low flow fixtures? How much money is at stake here? Why is cleaning these fixtures an issue? My own experiences of people I know who own or manage apartments, plus having lived in apartments as well as having used low flow fixtures, lead me to observe the following. First, do people even know if they have low flow fixtures? Second, the mixture of the managers, owners, and their spouses as the level of analysis is confusing. Why are managers interviewed? Do they really decide what happens (61% to 83% indicate that owners approval is needed)? Owners would be more appropriate. This is an important point - it should either be justified in next draft or the owners interviewed.

The findings may be spurious. Perhaps there are other factors about the complex or owners that determine who is hired as managers, their education, age, etc. Also, is it a slum landlord? How "run down" is the complex? Are some owners looking for a tax writeoff? These might be important determinants of both the type of fixtures used, and of the identity of the manager.

In the next draft, the conclusion section could be cleaned up and the complex findings presented in a clearer way . Also, the conclusions perhaps go beyond the data. Findings imply the necessity of employing incentives other than price in order to produce desired levels of conservation by apartment managers and tenants. But desired levels according to whom? The apartment managers, apartment tenants, owners, or city government? Other policy makers perhaps?

The findings mentioned limited amounts of complaints about fixtures. This implies that they are generally accepted. However, this isn't really discussed in the paper, except as mentioned in a table. But 9% of what? Of all tenants or the percentage of managers that have received complaints and if so, how many complaints? Or is it that managers say 9% of all tenants have complained. What percentage of tenants, over time, have had these fixtures? (Not just the number of apartments with them.)

The paper mentions older managers and possible payoffs, even though older managers cost more to hire. How do the authors know this? And, what exactly is the payoff in terms of dollars or quality of life?

My suggestions: (a) Better situate the problem to be addressed; (b) Address why the unit of analysis was chosen (and think about changing it); (c) Provide more information about the tenants, apartment, etc.; (d) Present conclusions in a more clear manner; and (e) Provide perspective of the tenant. What does this mean to the tenants in terms of their life quality?

"Quality of Life of Middle-Aged Women" by Walker, Lee, and Bubolz attempts to understand the effects of various resources and demands on the perceived quality of life of married women.

I had a little difficulty understanding the place of depression in this scheme. The paper mentions that depression has been seen as an outcome of stress and that it has an effect on the quality of life. There is a health index included as a variable, and the items listed sound like this may be an indicator of depression. But I can not be certain. I think depression may be a fruitful area for future research in the quality of life realm. Is depression an indicator of quality of life? Is it an outcome variable? Is it a determinant of quality of life? The most recent research cited on this issue was 1981.

Another issue that I started to think about concerned some of the stressors. What seems to me to be missing in some cases is the individual's perceptions of the stressors (e.g., time stressors). As Marks (in his 1977 American Sociological Review article) indicated, if people feel committed to a role, they tend not to feel that the demands of that role are stressors. But rather, they willingly give time and energy to the roles to which they are committed. He also suggests that people use accounts of no time and no energy to get themselves out of doing things they do not want to do. It seems to me that since these people were not asked about their commitment to these roles, we are unable to tell if these are really time stressors or not. My suggestion is to obtain better indicators of what is or is not stressful, and why.

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This paper also uses some one-item measures, for example, marital happiness. Quality of family life has a more sophisticated measure. Marital happiness, I would argue, is multifaceted.

The paper indicates that due to the high correlation between marital happiness and quality of life, in the final equation (with quality of life as dependent variable) marital happiness was dropped. However, later in the paper, marital happiness is still discussed quite frequently. It also mentions that quality of family life is highly related to quality of life and also that marital happiness does not directly impact on quality of life, but rather is mediated through quality of family life. I am confused as to exactly what place marital happiness has in the determination of quality of life.

Health symptoms are mentioned several times, usually as determinants as such things as marital happiness or quality of family life. Could it be that it really is the other way around? The paper mentions that depression is a possible outcome of stress. This is also true for poor health. Therefore, it may in fact be that the quality of the marriage is related to health outcome- that those people with less satisfying and therefore more stressful marriages are less healthy. I started thinking that the equations might be structured differently, with health as an outcome rather than a determinant of marital happiness and quality of family life. (Some mention of this is made in the conclusions.)

Another question I have is, why in the health symptoms equation (on page 8) is level of income not a determinant of health symptoms? I think there is ample evidence concerning the effect of income and other SES indicators on one's health. I would guess that level of income plays an important part in determining health symptoms, as do the other listed variables. My suggestion is to include income as a determinant of health symptoms.

This paper adds to the literature of the importance of utilizing both objective and subjective measures of determining quality of life. Income adequacy appears to be an important variable in understanding quality of life. Health is also an important variable, consistent with other findings. The authors note that health symptoms are significantly related to overall quality of life as well as to evaluations of marriage and family life. This indicates that health is an especially sensitive indicator of quality of life, influencing many different life demands.

The authors note that, in their model, health symptoms are seen as independent variables in relation to marriage and other family variables. ("There probably is an interactive effect, that poor health can affect family relationships, creating stress which feeds back and impacts further on health symptoms. Future research should examine these relationships from a non-recursive model.") I agree that the relationship between health and family and the quality of life is not fully understood. I think that this might be best investigated at this point, with health symptoms as either outcomes of marital and/or family happiness, or even as outcomes of quality of life. I suggest that careful thought be given to the placement of health symptoms in the path model.

The paper reinforces previous research of what variables seem to be related to quality of life. However, I caution that the statement on page 12 that "the strong relationship of family life to quality of life attest to the continuing significance of intimate interpersonal relationships to well being" is perhaps overstated. Only middle-aged married women with children are included in the sample; thus it is hard to know if single, or single parents, or perhaps the remarried, are the same.

In conclusion, the authors mention that findings identify three major domains representing demands and resources which affect quality of life. They note that family relationships present both stressors and demands and also are important social resources. This seems an important point that future research ought to look at more closely -- that is, what is the role of the family in all of this? It seems that the family can either be a big source of strain or a "haven from a heartless world." Should we turn our attention from trying to find what set of variables "predict" some amount of variance in a standard quality of life measure, and direct our efforts to improving family relationships? I suggest that the authors integrate more clearly the role of "family" or "intimate" relationships into their models, as well as the related literature. I would also caution the authors to think about the statement that "the findings of this research have identified three major domains, representing demands and resources, which affect quality of life." (p. 12) The domains were chosen by the researchers for study, not discovered through their research, and they seem to explain a relatively small amount of variance.

My suggestions follow. (A) Better explain the motivation for the study. Why is this important to know? (B) Integrate the findings with the literature in a more complete fashion. What is the unique contribution of this piece of research? (C) Think about what more qualitative research might address in terms of what people really see as constraints in their environment? What resources do they really call upon? What are they asked to do in their lives that is affecting their overall assessment of health and marriage and life in general? Perhaps this will lead to better understanding of what our survey research is, or is not, finding. For example, what is it about family relations or perceptions of income that influences the satisfaction people have in life? (D) I also wonder if the magnitude of some of life's demands are adequately represented in the way we do our research. For example, if my mother were to fall and break her hip today, that would have a strong impact on the quality of my life, much more so than some of the other variables that are included in a study like this. I would suggest that more attention be paid to the measurement of stressors and resources. Perhaps a stronger link should be forged between stress research and quality of life research. (E) Think about the place of health symptoms in the model, and also the relationship between socio-economic status and health.

I like that the paper by Douthitt, MacDonald, and Mullis clearly states its purpose and what its significance would be to the knowledge base. That is, its aim is developing several "rigorously defined measures of economic well-being to accurately analyze the relationship between the economic domain and psychological well-being" (pg. 3). Research in the past has found that there is a relationship, but not an exclusive one, between level of income and psychological well-being. Perhaps more of the variance can be explained if better definitions or measures of economic well-being are used. The authors particularly point out the problems with using a current income measure, as opposed to other measures of income. Stage of family life cycle or stage of the individual in the life course might also be more explicitly considered in the discussion of why current income may not be an accurate measure.

The psychological well-being scale looks interesting. However, I would suggest more of a discussion of why the various items were selected. It might have been interesting to include items on satisfaction regarding friends, since that could be an important consideration throughout the life cycle, perhaps very important for singles. Single people may have trouble answering about family life: perhaps satisfaction with dating or significant others is important. I suggest that this be explored.

A contribution this paper can make (or others from it) would be to more clearly specify economic well-being and also more clearly specify psychological well-being. Also, given the intended purpose of the paper, I began to wonder if it may have been better served to use a standardized measure of personal well-being, so that results could be better integrated with the literature.

I find the idea of trying to operationalize the three different income hypotheses intriguing. One question I do have has to do with the Dunsenberry Relative Income Hypothesis and how it is operationalized. The authors are trying to capture the relative nature of economic well-being (how the family is "keeping up with the Jones'"), by taking the mean expenditures for the sample and netting this from the expenditures of each family. My question is, how accurate is this when examining rural and urban differences or the cost of living in various parts of a region or state? While this may be acceptable for this sample (since it was all within the same state), how could this be done with a broader based sample? For example, expenditures for a farm family living in rural Wisconsin would surely be different than the expenditures of a family living on Long Island.

I also wonder about the interpretation of this calculation. If the family is spending more than the average, and therefore doing more than "keeping up with the Jones,'" does this in fact mean they are getting more in debt or that they have more income? Later, on page 12 of their paper, the authors indicate that spending more than the average seems to be related to less current satisfaction. They also note that spending less is related to more satisfaction. I wonder what, if anything, this might say about the accuracy or usefulness of this indicator? I suggest this be investigated further, especially so when one realizes that the families that spend more are, in fact, "The Jones."

Are people really aware of their expected family income? As measured in this paper, it appears that this is projected by the researchers rather than being a factor "as known to the respondent." That is, this is a scientific concept, rather than an ethnoconcept. Perhaps respondents should be asked about how they perceive their ability to maintain a relatively level pattern of consumption throughout their lifetime. This variable seems to be related to psychological well-being, but I am not sure that people really know that.

The authors note that, "Generally all three models of economic well-being perform favorably in explaining psychological well-being." I would caution that it be remembered that the best model had an adjusted r^2 of .15. Perhaps these more powerful measures of economic well-being used in conjunction with other theoretically important variables hold promise for future insights into determinants of the quality of life.

My overall suggestions include the following. (A) Given what I was stimulated to think about by reading these three fine papers, I believe that perhaps we do not allow people to tell us, in their own language, what is creating or causing them to feel the way they do about the quality of their lives. (B) Perhaps research should move in the direction of less quantification and more qualitative methodology. This would allow researchers to get a richer sense of why people are the way they are, and why they feel the way they do. For example, what kind of role performances are these people undertaking? What is their sense of self? How is this articulated with the demands of the environment they are living in, whether rural Kansas, urban Michigan or urban Louisiana? Subjective variables and personal perceptions seem important to quality of life. Perhaps we need to ask more from ethnographic approaches to learn about the indicators and determinants of quality of life. Some of these ideas are addressed in these papers. (C) I am beginning to think that more emphasis should be placed on the dependent variable side of the equation. That is, more emphasis on how quality of life is measured. Is quality of life the same as psychological well-being, level of depression, or the sense of not feeling stress? Is quality of life something that varies hour to hour and day to day? Under what conditions do people even think about the quality of their lives? Does quality of life lead to other outcomes? Why is this an important topic to research?

(D) Perhaps on the determinant side of the equation, there are objective conditions that influence the quality of life. People may be unaware of some of these -- race or gender, for example, may have allowed opportunities or have limited opportunities for the person. How the person was socialized by the parent(s), values that were thus acquired, outlooks on life, and a sense of what is or is not important, may in a large way influence the current sense of well-being and satisfaction of who they are and where they are. Other factors which may influence quality of life may be out of the person's control, such as genetic or biological dispositions, health status, or catastrophes. The stress research indicates that perceptions play a major role in determining feelings of distress. These perceptions are commonly found to be more important than objective indicators of the nature of the stressor or resources available. I am beginning to think that maybe the important determinants of quality of life are mentalistic variables, including the intrapersonal discourses people have with themselves about their senses of self, their role identities, and the fit between their perceived selves and the selves they want to be.

TRADING BLOCS AND THE CONSUMER INTEREST PROSPECTS FOR THE EC IN 1992

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The purpose of this paper was to examine the implications of the Single Market in 1992 for consumers. The benefits from market integration are discussed first followed by a discussion of various factors that might reduce the potential benefits. Future developments include the deepening and widening of the European Community in response to German unification and the emergence of democracy in Eastern Europe.

THE EUROPEAN COMMUNITY

The 1957 Treaty of Rome established the European Economic Community (EEC) and removed tarriffs and quotas between six European countries : Belgium, France, Italy, Luxembourg, Netherlands, and West Germany. In 1973 the Europe of six became the Europe of nine with the addition of Denmark, Ireland and the United Kingdom. Greece became the tenth member in 1981 while Portugal and Spain joined in 1986. In that year the twelve EEC nations adopted the Single European Act which amended the Treaty of Rome and contained the first reference to the completion of the internal market by December 31, 1992. This Act came into force in 1987 which was also the year when the EEC began to be called the EC or European Community (KPMG 1989).

The creation of a single EC home market has several components which are often called the four freedoms. They are given below.

1. Free movement of goods.
2. Free movement of services.
3. Free movement of capital.
4. Free movement of people.

The first and second freedoms mean that companies will be able to provide goods and services throughout the community due to the removal of administrative and technical barriers. The third freedom provides freedom of choice in banking, investment, and insurance and removes controls on capital movements. The final freedom ranges from the removal of frontier checks on individuals to freedom of choice for students and workers to seek educational and job opportunities throughout the community.

The EC has proposed 279 measures to remove barriers to the achievement of a single internal market. These measures fall into the following three categories.

1. Physical barriers. These include frontier checks on people and goods.
2. Technical barriers. These include divergent product standards, divergent technical regulations, divergent business laws, protected public procurement markets and barriers to education and jobs.
3. Tax barriers. These reflect different rates of VAT and excise taxes in the different member countries.

Tax barriers are likely to remain a problem in view of divergent social policies and the different taxing needs of EC countries. However, it is recognized that rates cannot be too divergent or there will be serious distortions in trade. The European Commisssion has proposed that member states may choose a VAT rate between 14 and 20 percent which may be too wide (KPMG 1989).

The EC has made good progress towards the the completion of its 1992 Single Market Program. One hundred and fifty-two of the original 279 measures have been adopted by the EC's Council of Ministers ("Policing Europe's Single Market" 1990).

BENEFITS FROM THE EC INTERNAL MARKET

The Cecchini Report

The Cecchini Report (1988) is the first study of the projected economic impact of the Single EC market. It identified the costs of non-Europe including goverment protectionism in procurement markets, divergences in technical regulations and standards, blocks to transborder business activity, and higher production costs in the service and manufacturing sectors. Two procedures were used to estimate the benefits from a single market. This was due to data limitations and the ensuing need to cross-check the results by using different estimating procedures.

The macro-economic procedure focused on the supply-side shock effects of market integration on main macro indicators such as gross domestic product, inflation, employment, and public budgets. The micro-economic procedure focused on the impact of removing non-tariff barriers on companies, consumers or government.

The macro-economic analysis was based on the following four events: removal of border controls, opening up procurement markets, liberalization of financial services and response of business to a more competitive environment. The two major outcomes from these developments were price reductions and productivity gains. The estimated medium-term gains to the EC are given below.

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1. An increase of 4.5 percent in the Gross Domestic Product.
2. A 6.1 percent reduction in consumer prices.
3. Creation of 1.8 million new jobs.
4. An improvement in the Balance of Public Finances equal to 2.2 percent of the Gross Domestic Product.

Similar results were obtained for the micro-economic estimate. However, this approach also provided information about the impact of market integration on consumers and producers. There were substantial gains to consumers while the outlook for producers was more uncertain due to profit erosion for companies that had monopolies or were protected.

The estimation of the potential gains in the micro-economic analysis entailed four steps as outlined below.

1. Removal of Intra-EC barriers including customs formalities and delays.
2. Removal of barriers to production and competition. These include restrictions on manufacturing, divergent national standards and regulations, protective public procurement and restrictions on services.
3. Cost reductions from economies of scale.
4. Other efficiency gains due to competition. These include better inventory management and a reduction in monopoly profits.

The gains from the first step were small relative to the gains from the other three steps. Total gains for the seven states in 1985 prices ranged from 127 to 187 ECUs (European Currency units) or from 4.3 to 6.4 percent of the Gross Domestic Product. Total gains increased when the analysis was extended to twelve states and 1988 prices. The mid-point estimate for 1988 was 216 billion ECUs or 263 billion dollars.

Consumer Policy Issues

The Cecchini Report (1988) indicated that European consumers would have more access to a wider range of products and services as well as lower priced proucts and services. In addition, the opening up of public procurement markets in major sectors such as telecommunications, energy, water, and transport would reduce prices in these sectors and hence benefit consumers as taxpayers. However, Lawlor (1988) points out the need for continued input and representation by consumers if they were to achieve the full benefits from a single market. Major issues include : health and safety, economic safety, consumer information and consumer representation.

In the case of consumer product safety different EC countries have different safety standards which could be obstacles to trade. Thus, there is a need for safety legislation at the Community level so that products could be sold throughout the Community. Lawlor's concerns are not too dissimilar to those voiced by BUEC (1985) several years earlier in which it was pointed out that health and safety arguments had been misused to protect national producers from price competition. BUEC also argued that the EEC should have a product safety policy and that such a policy was an essential component of trade liberalization.

Economic safety issues are misleading advertizing, protection of consumers from defective product losses, the availability of "fair" contracts for consumers, and consumer access to all products and services produced and distributed in the EC. Again, such issues must be recognized and appropriate policies developed if consumers are to achieve the maximum gains from market integration and trade liberalization.

Lawlor also emphasized the importance of consumer representation. He stated that the consumer movement had developed unevenly in the Community and that consumer representation was needed to make markets more responsive to consumer requirements. Consumer associations could play a major role in this respect and in monitoring policies which might affect consumers.

FACTORS WHICH MAY REDUCE POTENTIAL BENEFITS

These factors include the following.

1. Delays in implementing EC directives. 2. Access to EC markets by non-EC firms. 3. The exclusion of certain markets from the liberalization process.

Each of these factors is discussed in the following sections.

Delays in Implementing EC Directives

According to an article in the Economist ("Policing Europe's Single Market" 1990) there are real problems in the implementation of the directives from the EC commission. Member states are normally allowed 18 months to implement these directives and should by now have implemented 88 of the 152 measures that were adopted by the Council of Ministers. However, only 14 measures have been implemented in all member states and only 55 measures in eight states ("Policing Europe's Single Market" 1990).

Access to EC Markets by Non-EC Firms

The major trading concerns of non-European companies are that 1992 could result in "Fortress Europe" (Lamoriello 1989, Farren 1990). The major areas are protectionist product standards, discriminatory goverment procurement regulations, rules of origin and local content, and reciprocity. The EC is attempting to harmonize its product standards so that one standard may be used in place of the different standards which exist in each state. While there will be great benefits from this change foreign companies are concerned that they may lack representation in the standards, testing and certification procedures. In the case of public procurement, current EC regulations require European goverments to consider bids from other EC member states. However, there is more uncertainty about the treatment of bids from Non-European companies in major sectors such as telecommunications, transport, water and energy (Lamoriello 1990).

The use of rules of origin and local content could oblige foreign companies to establish manufacturing plants in the EC if they are to receive the full benefits from 1992 (Wallace 1990). This "forced investment" would be difficult for small and medium sized companies and lead to a reduction of competition in the EC market. The final issue of reciprocity is based on the premise that EC companies in foreign countries should be treated in the same manner as foreign companies in the EC. It has become important in areas of banking and financial services which are not covered under GATT's international trading rules.

Frans Andriessen, the EC Commission Vice President for External Relations and Trade Policy, responded to many of these concerns at a recent conference in Washington D.C. (Andriessen 1990). He stated that the purpose of the 1992 program was to open and liberalize the markets in the EC and that the EC had a long-standing policy of open international trade and trade liberalization.

Andriessen also mentioned that the Uruguay Round would play an important role in the trade liberalization process and that it was important to maintain our commitment to multilateralism in such talks. The Uruguay Round was also discussed by Ambassador Hills at the same conference and she stated that trade had outgrown the GATT and that many areas were not covered like services, investment and intellectual property. As a result "roughly one-third of world trade, over $1 trillion in goods and services, is not adequately covered by internationally agreed rules of fair play" (Hills 1990, p.43). She also noted that agriculture was a major problem and that there were considerable differences between the U.S. and the EC concerning what reforms were needed.

Exclusion of Certain Markets from the Liberalization Process

Agriculture is one of the major markets which have long been excluded from GATT's international trading rules. In addition, the EC has a common agricultural policy which it is likely to continue in spite of the Uruguay Round. This policy is expensive for European consumers and taxpayers. According to a report by the National Consumer Council (1989) the policy leads to increased prices and reduced choice for consumers, increased food and food surpluses, and a neglect of food quality and the environment. Total costs of the program were estimated at 80 billion ECUs while total benefits were only 50 billion ECUs. Thus, each 100 ECU received by the producer cost consumers and taxpayers 160 ECU. The study by the Council noted that there were more efficient and lower cost ways to achieve stable and secure food supplies.

Another major market, which has also been excluded in the past, is textiles. This reflects the Multi-Fiber Arrangement under which developed countries in the EC are able to establish quantity restrictions for textile imports from developing countries. These restrictions also entail high costs for European consumers and have been protested in the past but without avail (BEUC 1985).

FUTURE DEVELOPMENTS

There are two main schools of thought concerning the nature of the European Community in the 1990s ("Westward Ho" 1989, "Deepeners Versus Wideners" 1989). The first school wants the present EC countries to have a tighter union while the second school wants the Community to include members from Northern and Eastern Europe. According to the report in the Economist, deepeners are strongest in the European Commission, France and Italy. They visualize the Europe of the 1990s " as a set of concentric circles with the EC at the centre, EFTA forming the next ring and East Europeans as the outer circle. EFTA countries would get access to the single market (though not the decision-making powers), the Easteners trade advantages and aid" ("Deepeners versus Wideners" 1989, p.50). In contrast, the widerners argue that the EC should provide more assistance to the ex-communist East. They also point out that it will be difficult to isolate East Germany , which is likely to be admitted as a 13th member or as part of a unified Germany. The entry of East Germany will present many problems. The first problem is the enforcement of EC rules on subsidies, product safety and the environment for East German products. The second problem is the availability of regional aid for East Germany. Other problems are the freedom of movement of many resident aliens in East Germany and the fact that East Germany has long-term contracts to buy cheap Russian oil and Czech coal ("The EC and a United Germany" 1990).

Most wideners accept that slower integration will result from widening. It will be more difficult for a Community of 16 or 24 members to agree "to end frontier controls, create an economic and monetary union or form a common defence policy" ("Deepeners Versus Widerners" 1990). However, wideners also accept that it will not be feasible for Eastern Europe to join for some time. The assimilation of EFTA is less complex since the population of their six countries (Austria, Finland, Iceland, Norway, Sweden, Switzerland) is only about 30 million compared to 320 million in the EC. In addition, these countries are similar to the EC countries and they have a high standard of living.

The economies of Eastern Europe were discussed in a recent article in the Economist (Eastern Europe's Economies" 1990). According to Jeffrey Sachs, an economic adviser to the goverments of Poland and Yugoslavia, several steps are needed. They include market reforms in the East and financial assistance and open markets in the West. He noted that an East European common market would be a poor man's club and that it was important for Eastern Europe to become integrated with Western Eruope.

In conclusion, Europe is in the process of being re-designed due to the 1992 Single Market, German unification and the emergence of democracy in Eastern Europe. These changes are occuring very rapidly and will affect all European countries. However, there is every indication that these changes will be beneficial in the long-run due to increased economic growth and increased choice for most European consumers. The 1992 Single Market was designed to produce an European Trading Bloc which would be competitive with the trading blocs of North America and Asia. While such trading blocs will stimulate trade between countries within a bloc it is also important that trade occurs between trading blocs. The Uruguay Round, with its emphasis on multilateral as opposed to bilateral arrangements, will pay a major role in this respect.

REFERENCES

Andriessen, F. (1990), "Europe in Transition," Proceedings of the Conference on 92 Europe, Columbia Institute, February 23, Washington D.C.

BEUC, (1985),"Protectionism and Consumer Protection," BEUC News, 43 (March):5 -7.

Cecchini, P.(1988), The European Challenge: 1992, Aldershot, England: Wildwood House.

"Deepeners Versus Wideners," (1990), Economist, 314 (February 4):50.

"Eastern Europe's Economies," (1990), Economist, 314 (January 13): 21-26.

Farren, J.M.(1990), "US-EC 1992 Trade Issues," Business America, 111 (January 15): 4 -5.

Hills, C. (1990), "Luncheon Address," Proceedings of the Conference on 92 Europe, Columbia Institute, February 23, Washington D.C.

KPMG (1990), "Architect of 1992: Interview with Lord Cockfield," World, Special Issue on EC 1992, pp.6-11.

Lamoriello,F. (1990), "Trading Concerns," World, Special Issue on EC 1992, pp.28-30.

Lawlor,E.(1988), Individual Choice and Higher Growth: The Task of European Consumer Policy, Belgium: Commission of the European Communities.

National Consumer Council, (1989), "Consumers and the Common Agricultural Policy," Journal of Consumer Policy, 12 (June):165-192.

"Policing Europe's Single Market," (1990), Economist, 314 (January 20) : 69-70.

"The EC and a United Germany," (1990), Economist, 314 (March 24):51.

Wallace,R.(1990), "Issues on the US Agenda:Session I," Proceedings of the Conference on 92 Europe, Columbia Institute, February 23, Washington D.C.

"Westward Ho,"(1989), Economist, 313 (November 1989):58.

AN OUTSIDER'S GUIDE TO 1992:
CONSUMER PROTECTION AND STANDARDS

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At the core of the movement of the European Community to "1992" is a monumental effort to overcome hundreds of non-tariff barriers (NTBs). This is to be achieved by harmonizing product standards, safety regulations and registration procedures. This guide, for and by outsiders, gives a thumbnail sketch of the major factors affecting the outcome.

1992: TO BE OR NTB?

A tariff is easy to see and therefore relatively easy to place on the agenda for trade negotiation. Non-tariff barriers (NTBs) are often harder to spot and therefore harder to address. But they are no less harmful to consumers. A simple example is a licensing or registration procedure for insurance companies which is put forward "to protect consumers" when the real purpose is to shield local companies from competition. The shape of the package was used to keep foreign margarine from the market in Belgium. Another example is a technical standard specifying the engines or brakes that locomotives must have. Many countries in Europe use this to keep competing units out of the national market. An Italian health standard was used for a time to keep apple vinegar from other countries off the national market. There is no limit to the imaginitive use of NTBs. Each good or service may have several controls, some of which actually serve consumers (by ensuring health, safety or competition) and many others which harm consumers. One estimate found that the European Community (EC) had over 100,000 different technical regulations and standards (Commission, 1988, No. 55, p. 49). In 1988 the European Commission surveyed 20,000 enterprises in 12 member countries to rank the seriousness of barriers to trade. The results, starting with the most serious:

1. technical standards and regulations
2. administrative barriers
3. frontier formalities
4. freight transport regulations
5. tax differences,
6. capital market controls

7. government procurement rules
8. implementation differences in Community laws

UNCOMMON SUCCESS WITH A COMMON MARKET
1957-68

It was on March 25, 1957 that the Treaty of Rome established the European Economic Community from the original six countries: France, Italy, West Germany, the Netherlands, Belgium and Luxembourg. The principal goal was a common market, meaning the removal of internal tariffs and quotas and the creation of a uniform external tariff to protect that common market. A 12 year target was set to achieve this and victory was claimed by 1968, a year early. Progress on internal trade was truly impressive, though not complete. Agriculture was the major stumbling block. From the 1960s the use of agricultural subsidies through the Common Agricultural Policy (CAP) led to

THE EC
ICELAND
ATLANTIC OCEAN
NORTH SEA
NORWAY
SWEDEN
FINLAND
IRELAND
UK
DENMARK
USSR
NETH.
EAST GERMANY
POLAND
LUX
WEST GERMANY
CZECH
FRANCE
SWITZ.
AUSTRIA
HUNGARY
ROMANIA
BLACK SEA
PORTUGAL
SPAIN
Corsica
ITALY
YUGOSLAVIA
BULGARIA
Sardinia
ALB.
MEDITERRANEAN SEA
GREECE
TURKEY
MOROCCO
ALGERIA
TUNISIA
Sicily
Crete
Cyprus

MEMBERSHIP OF THE EC

1957 Original Six
Belgium
France
Italy
Luxembourg
Netherlands
West Germany

1973 Denmark
Ireland
United Kingdom

1981 Greece

1986 Portugal
Spain

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mountains of surpluses which threatened to bankrupt the EC. But visible progress had the European Community (EC) grow from six countries to 12 with the addition of Britain, Denmark, and Ireland in 1973, Greece in 1981, and Spain and Portugal in 1986. As Table I shows, there are four rather large countries by population (or by GDP) and a range of eight other sizes to tiny Luxembourg. Trade within the EC countries is about the same size as trade outside the EC.

Table I
BASIC STATISTICS OF EC COUNTRIES

Country	Population (million)	GDP ($ bil.)	Exports ($ Bil.) Inside EC	Outside EC
France	54	542	48	49
Britain	56	474	43	56
Italy	57	378	35	42
W. Germany	62	690	90	93
Holland	14	139	50	19
Ireland	3	18	6	3
Belgium	10	85	39	16
Spain	38	174	9	12
Greece	10	37	2	2
Luxembourg	.5	3	*	*
Portugal	10	22	3	2
Denmark	5	61	8	9
EC	320	2623	333	303

Source: E.C. for 1987.
* In Belgian statistics

Progress with internal trade indeed helped consumers by means of increased competition and lower prices, but much of the gain was lost because the CAP led to either high food prices, or price controls plus high taxes to make up the difference. And disposal of surplus stocks drew attention to the problem. The spirit of charity was often too low to keep European consumers cheerful whenever a mountain of "Christmas butter" was given to Soviet consumers at bargain rates while EC consumers paid high prices.

WORLDWIDE GROWTH OF NTBS

The completion of the customs union by 1968, remarkable as it was, failed to liberate consumers from the higher prices resulting from national protection against competition. The reason? The momentous growth in the use of non-tariff barriers (including "voluntary" and other quotas, and the abuse of anti-dumping provisions) to the point where they are more significant than tariffs, as measured by harm to consumers (Corbet, 1986; Venables, 1986). Further, NTBs often harm low income consumers most of all (Jenkins, 1980). UNCTAD research shows that: "... most of the new trade interventions by developed market economy countries, consisting mainly of restrictions and retaliatory actions were directed primarily against other [developed] countries. This was due particulary to the complex system of trade measures built up against Japanese exports, especially in the EEC and to a lesser extent in the United States" (UNCTAD, 1987, p. 194). The transparency of tariffs before GATT has led countries to make more use of the less visible NTBs. The impact on consumer well-being is so severe that the reduction in NTBs must be a priority for consumer research and for consumer action.

FORTRESS EUROPE: MYTH OR REALITY?

A major concern outside of Europe is that 1992 will be accompanied by barriers against outsiders. Part of this concern is identified with finger-pointing in the serious agricultural subsidy wars among the major trade blocs. That issue is serious, though more closely related to subsidies than to standards, which is the theme treated here. The main indication of a Fortress Europe approach came in the statement by the EC Commissioner for External Relations, Willy de Clercq, that foreign banks would only benefit from the larger EC market if their home markets were opened to EC banks. Later he down-played the expectation of reciprocity arguing that the EC had a strong interest in multilateral trade. It is especially so for consumers. Fortress Europe is not strongly suggested by the way that country-specific quotas for importing Japanese cars are being eliminated and replaced with "temporary" EC quotas. The shift from country-specific NTBs to EC quotas is an overall improvement, though not completely ideal for consumers. Consider the conspicuous example in the tactic used by France requiring that all Japanese video recorders must be cleared through the tiny customs port in Poitiers, a strategy which succeeded in bottling up imports. An EC wide policy, once it is defined, will surely be less aggressive.

What does a count of actual use of NTBs show about the fear of Fortress Europe? U.N. statistics show that there is less evidence for the "fortress" myth than there is for Japan-bashing: "No less than 50 per cent of the (1981) trade coverage of increased intervention through non-tariff measures in the period 1981-86 was directed against Japan: (UNCTAD, 1987, p. 194). Those are worldwide statistics. For the EC as a bloc, imports from Japan exceed exports by a ratio greater than 40 to 1, an astounding imbalance.

TRADE OF EC WITH MAJOR PARTNERS, 1987

	Population (million)	Exports to ($ billion)	Imports from ($ billion)
USA	240	81	63
Japan	121	1	40
COMECON	393	21	27
EFTA	33	53	93

Source: E.C. 1989. COMECON consists of eastern bloc countries and EFTA includes Nordic countries plus Austria and Switzerland.

If outsiders have exaggerated the possibility of Fortress Europe, it is partly because of the late stage at which the 1992 effort reached the consciousness of the rest of the world. In fact, 1992 as a target is nothing other than the end year of the eight year planning phase (1968, 1976, 1984, 1992). The major decisions were made in 1984-85 but too little noticed outside of Europe.

INSTITUTIONS FOR 1992

The completion of the customs union in 1968 left in place many non-tariff methods for protectionism. By 1980 or earlier it was evident that a barrier by barrier approach (against over 100,000 NTBs) would not succeed (Venables, 1986). The path-breaking change came at the beginning of 1985 when the new leader, Jacques Delors from France, proposed a major reform package containing four components. These were eventually passed as the Single European Act. Two elements, a defence union and a monetary union, are still under vigorous discussion, while two others led to major progress on EC institutions, and on the internal markets. In 1985 the European Parliament, with 518 Euro MPs, was given more control over budgetary matters (except over agriculture) ending a long-standing paralysis on financial matters. In the EC the MPs sit in political groupings rather than by country. The Single European Act also gave budgetary power to the Council of Ministers which represents the twelve countries. But it is important to see that the meetings take place with national ministers present (say ministers of agriculture or of environment or of transportation. A third institution, the European Commission is of special importance. It is a civil service, not elected, and is not so directly controlled by the other bodies as one might expect. The Commission is headed by Jacques Delors in his second term during 1989-92. Its 17 directorates can originate proposals for initiatives. The fourth institution is the European Court of Justice. Located in Luxembourg, the Court has 13 judges and six advocates-general from member countries. Since EC law takes precedence over national law, the court is of major importance. Most of its work concerns economic rulings on cases referred by national courts.

INTERNAL MARKET: COUP FOR CONSUMERS

No country wants to surrender sovereignty, not over defence nor over the NTBs on health, product standards nor anything else. The 1985 measure which allowed all to move to the "harmonization" effort was the agreement for all countries, as a first step, to recognise each other's standards. This is a benign, efficient wolf in sheep's clothing.

In the harmonization efforts, major use is made of a pivotal 1979 ruling of the European Court of Justice: the "Cassis de Dijon" precedent. West German law had been used to keep Cassis from France out of the German market on the grounds that it did not meet the standard defining liqueur (an NTB protecting German producers). The European Court held that trade could only be prevented if the import threatened health, or if it contravened tax laws. Cassis did not (it contained less alcohol than the 25% specified in the German standard). The Cassis Principle, as used for 1992 in the Delors package of 1985, eliminates the need for complete harmonization. This is a critical change because vigorous harmonization required unanimity in the Council of Ministers. As it stands, countries must recognise each other's standards so long as health and taxes are not threatened (often called the principle of mutual recognition). Initially, consumers feared the loss of true safety standards, but experience has been reassuring (Venables, 1986). In other precedents, "Eyssen" for example, the European Court has permitted standards to be retained when they really are health-related. The Court upheld Dutch law prohibiting cheese containing nisin, on the grounds that the additive's effect to prolong the commercial life of cheese was certain but nisin's effect on the length of human life was uncertain. With precedents like Dijon and Eyssen, consumers score a double coup, the elimination of harmful NTBs and maintenance of health standards. While the impact has been revolutionary, it would be incorrect to conclude that producers have abandoned attempts to invent imaginative new forms of protection. Too, the Dijon principle is harder to apply to services than to products, though it will indeed apply.

BENEFITS OF HARMONIZATION

The Community commissioned a major study to measure the economic effects of 1992. By the most conservative estimate, 1992 offers gains of about 2.5% of GDP. With dynamic competitive gains and complete elimination of internal barriers, this might be as large as 6.5% of GDP (European Commission, 1988, p. 19). The gains come from the removal of distortions, gains in efficiency and lower costs of administration. Indirect effects include, restructuring, innovation and the removal of X-inefficiency (inappropriate use of resources which adds to costs).

How important is each type of barrier in affecting intra-EC trade? Evidence is available from the Commission's survey of 20,000 enterprises.
Administrative barriers (customs) are judged to be the most important barrier in Belgium, Greece, Spain, Ireland, Italy, the Netherlands and Portugal.
Standards and technical rules are thought to be the most important barriers in Denmark, Germany, France and the U.K.
Public procurement rules are high in Italy and Portugal.
Frontier delays are highest in Belgium, Greece, Spain and Portugal, and the same countries have high barriers in transport market regulations. Italy has severe capital market restrictions. Some of these barriers have particular harmful effects on specific industries.

Economic measurement does not completely agree with the survey evidence. Estimates by the Commission suggest that a major portion of the gains will come from the financial sector. Elimination of NTBs there could theoretically mean price reductions for financial services from 10% to 34% (see table for country-specific impacts) with a realistic expectation of an overall price reduction in the 10% range.

In addition, the largest impacts of all are expected to be in items affecting final consumers, services like credit card rates, consumer credit, and insurance. The harmonization of many of the other standards have an impact on consumers which is less easy to see. Most, like the elimination of border formalities, the standardization of pharmaceutical registration, the removal of barriers to government procurement, and increased use of competition policy will result in lower prices and increased choice. If the harmonization has dynamic effects on innovation, or if it helps to make a Community-wide improvement on the environmental

FINANCIAL MARKETS: PRICE EFFECTS OF 1992

Possible impacts on the prices of financial products through completion of the internal market.

		Theoretical potential price reductions	Indicative reductions	
			Range	Center of range
1.	Spain	34	16-26	21
2.	Italy	29	9-19	14
3.	France	24	7-17	12
4.	Belgium	23	6-16	11
5.	Germany	25	5-15	10
6.	Luxembourg	17	3-13	8
7.	U. Kingdom	13	2-12	7
8.	Netherlands	9	0-9	4
Expected Impact on the Eight Countries		21	5-15	10

Source: EC 1988

front, the improvement in the consumer's standard of living will exceed the 2.5% to 6.5% gains estimated by the Commission.

CONCLUSION

The concept of 1992 with an internal market free from both tariff and non-tariff barriers is not of recent origin. Major initiatives were taken in 1976 and especially at the time of the 1985 paper Completion of the Internal Market, the key document identifying NTBs. Prior to 1985, harmonization was shackled by the requirement for a unanimous vote in the Council of Ministers for passage of standardization measures. By 1987 when the Single European Act was ratified. The Act, under Article 100a, needs only "qualified majority voting". Most Community-wide standard setting was transferred from Eurocrats to new European standards institutes like the European Telecommunications Standards Institute (ETSI), and the European Committee for Standardization (CEN). Consumers are represented along with industry experts though this is not entirely successful. A member country planning to set a separate standard (for an 'emergency') must notify the Commission which will assess it as a potential barrier to trade. So far the Commission has stopped more than 30 proposals for assessment.

The major device which has permitted a burst of progress is the use of a mutual recognition principle following the Cassis de Dijon ruling. Case by case assessment is impossibly slow because of the workload (for food additives alone, there are 40,000 applications). Dijon proposes, in the words of the Commission, that "The objectives of national legislation ... are essentially identical." For that reason "... if a product is lawfully manufactured and marketed in one member state, there is no reason why it should not move freely throughout the community." This principle eliminated the need for case by case approval allowing a giant step toward the completion of the internal market.

When 1992 arrives (on January 1, 1993 on the EC calendar) startling progress will have been achieved, though not full success. Serious problems will remain with the harmonization of standards for about forty professions. And if an EC-wide method for approving new drug products is established, it may be late. But the achievement will be remarkable nonetheless: hundreds of NTBs are not to be. The sustained effort, aided by some inventive public measures, will reduce enough NTBs to increase the standard of living in the EC by more than 2 1/2%, no easy feat.

There are probably three lessons for outsiders:
1. Non-tariff barriers are numerous inventive and quite harmful to consumer welfare.
2. Progress against NTBs requires a sustained effort and determined leadership.
3. Given the vast diversity of standards, regulations, rules and formalities, only a broad-based general approach has any chance of success.

REFERENCES

Corbet, Hugh, (1986). "Public Scrutiny of Protection: Trade Policy and the Investigative Branch of Government", In OECD, International Trade and the Consumer. Paris, pp. 224-237.

European Commission, (1985). Completing the Internal Market. White paper, Brussels.

European Commission, (1988). European Economy. DG for Economic and Financial Affairs, No. 35; March.

Jenkins, Glen, (1980). Cost and Consequences of the New Protectionism. The Case of Canada's Clothing Sector. The North-South Institute, Ottawa.

Organization for Economic Co-operation and Development, (1986). International Trade and The Consumer. Report on the 1984 OECD Symposium. Paris.

Owen, Richard and Michael Dynes, (1989). The Times Guide to 1992 : Britain in a Europe Without Frontiers. Times Books. London.

United Nations Conference on Trade and Development, (1987). Trade and Development Report, 1987. United Nations, Geneva and New York.

Venables, Tony, (1986). "Consumer Protection and Protectionism", In OECD, International Trade and the Consumer. Paris, pp. 191-206.

RESEARCH DATA PRIORITIES AS ASSESSED BY USERS: RESULTS FROM A SURVEY

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This paper presents the results from a survey on ranking of current and discontinued data sets and important data issues related to agriculture and rural areas from seven professional associations. The survey results show that the discontinued data set of family budgets is very important to members of ACCI. ACCI members also share many common concerns about the quality of statistics and the needs for new data and measures for analyzing emerging consumer issues such as food safety.

INTRODUCTION

A great deal of statistical data and information used by researchers, analysts, and extension professionals like those in the American Council on Consumer Interests (ACCI) are collected by various Federal statistical agencies. The data collected and disseminated by these government agencies are public goods in nature because data users usually pay only marginal costs for duplicating the data base. Therefore, there are simply no market-driven prices for these government statistics to determine the demand for and supply of this information. Yet there are very few who would dispute the tremendous social value of information.

The ever increasing complexities of the problems that most researchers and analysts have to deal with will always demand more and better (more accurate) data. Unfortunately, national statistical agencies are facing increasingly tight budgets for the collection and dissemination of data. Under this situation, statistical agencies have to be more selective in the type of data to collect. In fact, some data sets or parts of data sets were eliminated in the early 1980's as a result of budget cutbacks (Garkey and Chern, 1986).

In 1988, the Economic Statistic Committee of the American Agricultural Economics Association (AAEA) was concerned that additional data sets important to social scientists may be cut back or eliminated. The Committee felt that it was critical to assemble systematic information on how we use current public data and on our priorities, and make this information available to statistical agencies and policy makers. Consequently, the committee formed a joint project of seven professional associations including ACCI to conduct a survey of "Priorities for Data on Agriculture and Rural Areas."[2]

The objective of this paper is to present the survey results pertinent to assessing data priorities for consumer economics research and outreach activities. While this paper will provide an overview and selected comparative analysis of the results from the entire sample, the paper of Stafford and Haidacher will focus on a more detailed analysis of the subsample of the ACCI.

THE SURVEY

The major objectives of the survey are to determine what data on agricultural and rural areas currently are used by members of the seven professional associations and to ascertain expected future data needs of this same group. In order to achieve these objectives, the questionnaire was designed to contain three sections. Section I dealt with use of statistical data sets. There were 225 current data sets included in the survey. Respondents were asked whether or not they have used the data and to rank the data set for future use according to (1) very important, (2) somewhat important, and (3) not important. They were also asked to identify the ten most important data sets. Section II listed a series of 43 statements about potential changes (or new additions) in future data collection and dissemination efforts. Respondents were asked to check whether each statement is very important, somewhat important, not important or "don't know". They were also asked to identify the five most important issues on the list. Section III dealt with characteristics of respondents including primary area of focus and membership in participating associations. The survey allowed overlap among areas of focus as well as associations.

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[1] Professors of Agricultural Economics.

[2] Initially, the five associations of the American Agricultural Economics Association (AAEA), the Rural Sociological Society (RSS), the Community Development Society (CDS), and the Association of Environmental and Resource Economists (AERE) participated. The ACCI and the Socio-Economics Section of American Fisheries Society (SE-AFS) joined the effort at a later date.

Questionnaires were mailed to 6,200 members of associations during December 1988 - March 1989 (student members were excluded where identification was possible).[3] 2,992 usable responses were received, representing a response rate of 48%. If we exclude the overlap and retired members, the response rate would have been about 52% to 54%. By association, the response rates in percent (U.S. members) were: AAEA 51% (3,734), RSS 70% (700), CDS 50% (500), AERE 41% (500), FDRS 28% (250), ACCI 13% (700) and SE-AFS 8% (200) (see footnote 1 for acronym explanation). The response rates for ACCI and SE-AFS are underestimated because some of their members who are also members of other associations completed their questionnaires before we decided to mail to these two associations. Furthermore, these two associations were not listed explicitly on the questionnaire.

What are the characteristics of respondents? Among 2,992 respondents, the ACCI accounts for 3.1% while AAEA accounts for 63.3% and RSS 16.4%. With respect to the highest degree attained by the respondents, 65% had a Ph.D. and 26.5% had a MS/MA. With respect to current employment, 60.7% of the respondents work for a college or university, 13.7% for the Federal government, 3.8% for industry, 3.3% for state or local government, 4.0% for a non-profit organization, 5.3% for consultant arrangements, and 10.3% for others. There were 12 primary areas of focus specified in the questionnaire. The area of consumption and demand analysis is one of the 12 areas most closely related to what many members of the ACCI do professionally. In the total sample, 10% of the respondents identified consumption and demand as their primary area of focus. The highest percentage is 20.5% for environmental and natural resources as a primary area of focus. In the subsample for ACCI, 24.66% of respondents identified consumption and demand analysis as a primary area of focus, 4.3% identified demography, 1.08% identified agricultural cooperatives, 1.08% identified international trade and development, 1.08% identified community and rural development, and the remainder identified areas not specified in the survey.

SURVEY RESULTS ON CURRENT DATA BASES

One criterion for setting priority of data collection is the relative importance of various data sets to data users. In this paper, only selected sets of survey results most relevant to members of ACCI are presented while more extensive and detailed results were available in Hushak et al. (forthcoming). In the survey, all respondents were asked to check how important the 247 current and discontinued data sets are to them and to identify the ten most important data sets.

Table 1 shows the seventeen data sets ranked as "used and very important" by 30% or more of all respondents. The results show that the data set of consumer prices and price indexes ranks at the top with 54%. The list also includes the census of population and housing, current population survey, and consumer expenditure survey which have been widely utilized by ACCI members. Column four in Table 1 also shows how each data set ranked in the "ten most important" data sets question. Thirteen out of these 17 data sets are also in the top fifteen from this alternative ranking. In addition, Table 1 shows the corresponding ranking by field (12 primary areas of focus) and by association (5 exclusive of ACCI and SE-AFS). Specifically, #121 (consumer price indexes) was ranked in the top 15 by all 12 fields and five associations while, for example, #22 (farm costs and returns survey) was ranked in top 15 by only 5 fields and one association. Table 1 highlights the fact that some data sets have been utilized in more fields and more professional associations than others. More importantly, the data sets such as the consumer expenditure survey can be very important even though it is extensively used only in selected fields and by members in a few professional associations.

Table 2 presents the top fifteen data sets ranked in the "ten most important" data sets. Thirteen of these fifteen data sets are also among the top seventeen data sets shown in Table 1. Thus the two ranking criterion identify a similar set of data sets most important to data users in these seven associations. Note that several data sets on this list were ranked in the top 15 by only one of the seven associations. In fact, many of these fifteen data sets are top ranked only by members of AAEA. The data sets which were ranked in the top 15 by more than 5 associations include census of agriculture (5), census of population and housing (6), consumer prices and price indexes (6), and current population survey (5). This result is not surprising because these data sets provide many commonly used statistics. Somewhat surprising to us is that some more specialized data sets are also widely utilized by several associations. Specifically, county and city data book was ranked in the top 15 by four associations, while consumer expenditure survey was so ranked by three associations.

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[3] We followed the procedures recommended by Dillman (1978) with three mailings (questionnaire, reminder postcard, follow-up questionnaire). However, the recommended two-week interval was not possible because of the large number of questionnaires involved and the use of bulk mailing procedure. The mailings took four months because we mailed to ACCI and SE-AFS after we had completed mailings to the other five associations.

Table 1. **Seventeen Data Sets with Thirty Percent or More of Respondents Ranking as Used and Very Important.**

#	Data Set, by Rank	%	Top Ten[a] (Rank)	Field (12)	Assn. (5)
121	Consumer Prices & Price Indexes	54	3	12	5
1	Census of Agriculture	50	1	11	5
6	Census of Population & Housing	46	2	6	3
14	Current Population Survey	45	4	6	3
122	Producer Prices & Price Indexes	42	NR	8	3
26	Prices Received by Farmers	38	6	9	1
75	Agricultural Outlook	38	9	9	2
25	Prices Paid by Farmers	37	7	8	1
27	Number of Farms	35	NR	8	3
38	Field Crop Acreage & Production	32	13	5	1
120	Consumer Expenditure Survey	32	11	2	2
23	Farm Costs & Returns Survey	32	5	5	1
53	Econ. Indicators: Costs of Production	32	12	5	1
20	U.S. Foreign Trade Statistics	31	NR	4	2
47	World Agr. Supply & Demand Estimates	31	NR	4	1
24	Farm Production Expenditures	31	14	5	1
130	Survey of Current Business	30	15	2	2

[a] Rank in ten most important data sets question (Table 2). NR means it was not ranked as one of the top fifteen by this criteria.
[b] Number of fields (out of 12) or associations (5) in which the data set ranks in the top 15.

Table 2. **Fifteen Data Sets with Ten Percent or More of Respondents Ranking in Ten Most Important Data Sets.**

				Rank in Top 15[b]	
#	Data Set, by Rank	%	Used & Very Important[a] (Rank)	Field (12)	Assn. (7)
1	Census of Agriculture	36	2	12	5
121	Consumer Prices & Price Indexes	22	1	9	6
14	Current Population Survey	18	4	6	5
23	Farm Costs & Returns Survey	15	12	8	1
26	Prices Received by Farmers	15	6	8	1
25	Prices Paid by Farmers	14	8	6	1
17	County & City Data Book	13	NR	4	4
75	Agricultural Outlook	13	7	9	1
51	Econ. Indicators: National Financial Summary	13	NR	5	1
120	Consumer Expenditure Survey	13	11	4	3
53	Econ. Indicators: Production & Efficiency Stats.	12	13	3	1
38	Field Crop Acreage & Production	11	10	5	1
24	Farm Production Expenditures	10	16	4	1
130	Survey of Current Business	10	17	2	3

[a] Rank in used and very important section (Table 1). NR means it was not ranked as one of the top seventeen by this criteria.
[b] Number of fields (out of 12) or associations (7) in which the data set ranks in the top 15.

Table 3 shows the ten most important data sets identified by members of the ACCI. It is important to note that family budgets (#246), the third ranked on the list, was a discontinued data set previously published by the Bureau of Labor Statistics (BLS). The finding points out that BLS eliminated a very important data set to users in the ACCI. Somewhat to our surprise, the data sets of food intake by individuals (#133), nutritional status statistics (#161), health interview survey (#164), and survey of income and program participation (#18) were ranked lower than the panel study of income dynamics (#219) and employment and earnings for states and areas (#124) and for U.S. (#125).

SURVEY RESULTS ON IMPORTANT DATA ISSUES

Respondents were asked to rank the relative importance of the 43 issues related to potential changes in future data collection and dissemination, and to list the five most important issues. Among these are seven issues related to household demand and consumption of food while others are related to production agriculture, community development, trade, environment and resources, and quality of statistics. Tables 4 and 5 present the top 13 or "baker's dozen" issues ranked as "very important" and "five most important", respectively, by all respondents. The related results are organized in the same manner as those presented in Tables 1 and 2. Again, the two criteria yield many similar results even though the actual ranking of the issues differs somewhat. The indicated significance of these issues shows that data users in these seven professional associations are very concerned about (1) interpretation of agricultural statistics in the absence of published standard errors of the estimates, (2) lack of data to address current important public policy such as trade and food safety, and (3) measurement of farm and rural areas.

Table 6 presents the ten highest ranked issues by members of the ACCI. On the top of the list is to reinstate BLS's family budgets data which is consistent with the finding on the importance of data sets discussed earlier. It is interesting to note that ACCI members share many common concerns with members of the other six associations. Specifically, six out of ten issues are common to the all respondents lists presented in Tables 4 and 5. The issues unique to ACCI include establishing a special consumer panel (#27) and disaggregating household expenditures into quantities and prices (#24). These two issues were also on the top 10 issues identified by the FDRS. Measures of food safety (#30) is the issue shared by many data users in the survey.

Since the ACCI did not join the project until after the questionnaire was completed, other data issues unique and important to ACCI members were not included in the survey. Nevertheless, the survey results are still very useful for assessing the priorities and concerns about the data sets by ACCI members.

DISCUSSION

Even though the survey provides useful information for assessing the relative importance of current data sets by data users in the seven participating associations, it provides very limited information on whether or not users are completely satisfied with the top ranked data sets. The data issues specified in the questionnaire were not necessarily related to the important data sets identified in the survey. Unfortunately, the large number of data sets (249) made it impossible to include at least some issues related to each data set. The lengthy questionnaire (7 pages) already made it relatively time-consuming for respondents to complete the survey. Few respondents volunteered to offer additional comments on how to improve the current data sets other than the 43 issues listed.

It seems appropriate to use the results presented above for further interpretation. Consider first the consumer prices and price indexes (#121) which was ranked first by "used and very important" among respondents of all participating associations. Yet, none of the 43 data issues listed on the questionnaire is related to this data set. The importance of this particular data set is understandable because almost every researcher, analyst, and extension professional has used the consumer price index (CPI). Does this data set satisfy all the needs for consumer price information? Not completely. In fact, in the area of consumption and demand analysis, to our knowledge, several researchers have requested the BLS to provide consumer price data for more items of goods and services at the regional or state basis. These regional and subregional data of prices are critical for demand analysts to match with consumer expenditure data at the household level for demand estimation. Unfortunately, the BLS has repeatedly declined this request on grounds of confidentiality. This may be the time for the BLS to readdress these needs from data users.

Another example is the issue to "Establish a special consumer panel of at least 1,000 households for data on demand analysis" (#27) which was identified by ACCI members as the second of the ten most important data issues. Both the BLS's consumer expenditure survey and the USDA's nationwide food consumption survey have not been able to provide precisely the needed data for modeling consumer demand and food demand. Specifically, there are no regional data on prices available to match expenditures in the BLS's consumer expenditure survey because the quantity data are not usable. Even

Table 3. **Ten Highest Ranked Data Sets by ACCI[a].**

#	Data Set	Percent
120	Consumer Expenditure Survey	56
246	Family Budgets	41
6	Census of Population & Housing	29
14	Current Population Survey	29
129	Personal Consumption Expenditures	24
219	Panel Study of Income Dynamics (PSID)	24
124	Empl. & Earnings for States & Areas	19
125	Empl. & Earnings for U.S.	18
132	Household Food Consumption Survey	17

[a] Based on "Ten Most Important."

Table 4. **The Thirteen Top Issues by Ranking of Very Important.**

				Rank in Top 10[b]	
#	Issues, by Rank	%	Top Five[a] (Rank)	Field (12)	Assn. (5)
42	Estimate & publish standard errors	37	8	10	4
10	Better define & measure of farm population	34	12	10	4
9	Improve data on off-farm income	33	4	11	3
43	Estimate nonsampling errors	33	No	9	4
18	Data on cost of production/unit of output	31	1	7	2
31	Better definition & measure of rural population	31	5	5	2
30	Measures of food safety	29	13	6	2
33	Cost of living, etc., indexes for RSAs	29	11	4	2
39	Inventory of pesticide & herbicide appl.	29	6	4	2
32	Develop set of RSAs	28	3	4	2
22	Data on trade protection & intervention	28	2	6	3
23	Real exchange rate series	27	9	7	2
19	Data on standard units of production	25	No	6	2

[a] Rank in five most important issues question (Table 5).
[b] Number of fields (out of 12) or associations (5) in which the issue ranks in the top 10.

Table 5. **The Thirteen Top Issues from the Five Most Important Issues.**

#	Issues, by Rank	%	Very Important[a] (Rank)	Rank in Top 10[b] Field (12)	Assn. (7)
18	Data on cost of production/unit of output	21	5	9	2
22	Data on trade protection & intervention	21	11	8	3
32	Develop set of RSAs	20	10	6	3
9	Improve data on off-farm income	18	3	9	4
31	Better definition & measure of rural population	17	6	4	3
39	Inventory of pesticide & herbicide appl.	17	9	4	4
38	Enhance ambient quality monitoring	17	No	1	3
42	Estimate & publish standard errors	16	1	9	3
23	Real exchange rate series	16	12	4	1
1	Establish mid-decade census	15	No	4	4
33	Cost of living, etc., indexes for RSAs	15	8	4	3
10	Better definition & measure of farm population	15	2	9	3
30	Measures of food safety	14	7	4	4

[a] Rank in very important issues section (Table 4).

[b] Number of fields (out of 12) or associations (7) in which the issue ranks in the top 10.

Table 6. **Ten Highest Ranked Issues, ACCI[a].**

#	Issue	Percent
26	Reinstate BLS family budgets data	55
24	Disagg. Expenditure Survey into quantity & prices	26
33	Cost of living, etc., indexes for RSAs	25
30	Measures of food safety	24
1	Establish mid-decade census	23
31	Better definition & measure of rural population	23
32	Develop set of RSAs	17
9	Improve data on off-farm income	16
7	Series on personal income of farm households	14

[a] Based on responses to the question on "Five Most Important Issues."

though USDA's food consumption survey provides both quantity and expenditure data, it has been conducted only once in ten years. Therefore, it is difficult to use the USDA survey to monitor food consumption/demand on a continuing basis. Due to these imperfections, a special household panel has long been suggested as a means to collect data tailored to the need for demand analysis. In view of the emerging needs to monitor food consumption patterns in response to the increasing public concerns on nutrition, food safety and quality, a special consumer panel would merit serious consideration. The survey results presented earlier confirm the importance of this issue from rankings by members of ACCI.[4] However, it is not clear which Federal agency should be responsible for this data collection activity. It is essential for BLS, USDA and other Federal statistical agencies to examine this and other findings from the survey and to take appropriate measures to respond to the needs of data users.

CONCLUSIONS

This paper summarizes the findings from a survey on ranking of 249 data sets and 43 data issues related to agriculture and rural areas. Only selected survey results pertinent to consumer and demand/consumption research and extension were presented in the paper.

The ten highest ranked data sets by ACCI members are BLS's consumer expenditure survey (#120), consumer prices and price indexes (#121), family budgets (#246), employment and earnings statistics for states and areas (#124) and for the United States (#125), the Bureau of Census's census of population and housing (#6) and current population survey (#14), Bureau of Economics Analysis's personal consumption expenditures (#129), USDA's household food consumption survey (#132), and the panel study of income dynamics (#219). It was noted that the BLS's family budgets was a discontinued data set. This finding indicates that BLS eliminated a data series which has been very important to members of the ACCI.

The survey results related to data issues show that members of the ACCI share many common concerns about collection and dissemination of data related to agriculture and rural areas. Specifically, six out of ten top issues identified by ACCI members are also on the list of top 13 issues ranked by all respondents. The reinstatement of the family budget data was the top ranked issue by members of the ACCI. In addition, ACCI members ranked highly the importance of establishing a special consumer panel and of disaggregating the expenditure survey into quantities and prices. The implementation of these improvements would provide the critically needed data for demand and consumption analysis.

In summary, the survey provides useful information for Federal statistical agencies in setting priorities for data collection and dissemination. Of course, members of the seven associations participating in the survey represent only a segment of users of the statistical series listed in the survey. However, this is one important group of data users. It is important for Federal statistical agencies to consider the findings from this survey in setting data priorities.

REFERENCES

Dillman, Don A., 1978, Mail and Telephone Surveys: The Total Design Method, New York: John Wiley & Sons.

Garkey, Janet and Wen S. Chern, 1986, Handbook of Agricultural Statistical Data, Economic Statistics Committee, AAEA.

Hushak, Leroy J., Wen S. Chern, and Luther Tweeten, "Priorities for Data on Agriculture and Rural Areas: A Survey of Agricultural and Rural Social Scientists", in New Directions in Data and Information Systems for Rural Areas, ed. Rueben C. Buse and James Driscoll, Ames, Iowa: Iowa State University (forthcoming).

Stafford, Kay and Richard C. Haidacher, 1990, "New Directions in Data, Information System and Their Uses: Consumer Demand, Consumption, and Prices," paper presented in the 1990 ACCI Annual Meeting, New Orleans, March 29-31.

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[4] The importance of this issue was also highly ranked by members of FDRS. See Hushak et al. (forthcoming).

NEW DIRECTIONS IN DATA, INFORMATION SYSTEMS AND THEIR USER: CONSUMER DEMAND, CONSUMPTION, AND PRICES

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ACCI respondents to a survey on data needs by the economic statistics committee of AAEA selected the Consumer Expenditure Survey, consumer prices and price indices and family budgets as the three most important data sets. Reinstatement of BLS family budgets was the top priority issue. Three other data issues were important also--establishment of a consumer panel, measures of food safety and disaggregation of expenditure data. These data needs and issues overlap extensively with demand analysts surveyed.

Hushak, Chern and Tweeten (1989) have outlined developments leading to a comprehensive analysis of data priorities in 1989 by the Economic Statistics Committee of the American Agricultural Economics Association in cooperation with six other professional associations. ACCI was one of the cooperating associations. In the winter of 1989 members received a questionnaire on "Priorities for Data on Agriculture and Rural Areas." Ninety four members responded. Although ACCI members comprised only 3.1% of all respondents (Hushak et al., 1989), the response rate of ACCI members is underestimated. Members of ACCI who are also members of the other participating organizations were surveyed before ACCI members were surveyed and their responses were coded as coming from the other associations. The purposes of this paper are to summarize the responses of ACCI members to this survey, to compare their responses with others' and to identify implications for influencing data on consumer issues.

SAMPLE

First we describe the respondents to provide a background against which to assess their responses about data use and priorities. Of the 94 ACCI respondents, 35.1% had completed master's degrees and 50.0% held doctorates (Table 1). Respondents' modal primary discipline was home economics (32.3%), followed in descending order by family economics (27.9%) and consumer economics (18.3%). The majority were employed in colleges and universities (61.7%). The extension category, checked by 14.9%, was a created one which included any respondent who indicated extension or checked the combination of college and federal government employment. Accordingly, outreach education (42.6%), resident instruction (37.2%), and research (30.9%) were the most frequent employment responsibilities. Clearly, some extension personnel noted their employer as a college. Respondents' primary areas of focus were consumption and demand analysis (23.4%) and family economics (23.4%).

DATA SETS

ACCI members selected the Consumer Expenditure Survey, consumer prices and price indices, and family budgets as the three most important data sets (Table 2). All three data sets are produced by the Bureau of Labor Statistics (BLS), although the third is discontinued. Among all respondents, those thought to be most like ACCI members were those who identified the same primary area of focus as ACCI members, those who identified consumption and demand analysis as their primary area of focus. These "demand analysts" named consumer prices and price indices, the Consumer Expenditure Survey, and the Household Food Consumption Survey as the three most important data sets. The Household Food Consumption Survey was ranked tenth by ACCI members. Although there was a high degree of agreement in the rankings of data sets by these two groups, there was much less agreement in the rankings of either of these groups with the rankings of all respondents. Consumer prices and price indices also were among the top three data sets for all respondents. While ACCI members and demand analysts had six data sets in common among their top ten, these two groups had only three in common with the top ten of all respondents. All respondents ranked more data sets about farming among their top ten than either ACCI members or demand analysts. Another indicator of the importance of data sets was the percentage who used them and thought them very important. Of the ten most important data sets to either ACCI members or demand analysts only consumer prices and price indices were used and thought very important by a majority of all respondents. On the other hand, only two data sets were used and thought very important by all respondents, and we agreed about one of the two.

ISSUES

The other topic covered in the survey was issues in data collection (Table 3 and Table 4). A clear top priority issue emerged for ACCI members -- reinstatement of the BLS family budgets (77.7%). Three other issues were important to a majority of member respondents -- establishment of a consumer panel (51.1%), measures of food safety (48.9%), and disaggregation of expenditure data (46.8%). Clear areas of agreement with demand analysts and all respondents also emerged. A majority of demand analysts assessed establishment of a consumer panel (55.3%)and disaggregation of expenditure data (54.3%)as important. For all respondents, the most important issue in household demand and consumption of food was measures of food safety (29.4%), whereas ACCI members agreed with demand analysts in ranking this issue third. On the other hand, both demand analysts and all respondents ranked the members' top priority issue fifth out of seven issues in demand and consumption.

On the topic of quality of statistics ACCI members believed publishing standard errors was more important than developing estimates of nonsampling errors. Demand analysts and all respondents also ranked these issues in the same order.

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Table 1. Characteristics of ACCI Survey Respondents.

Characteristic	Percentage
Highest degree attained	
BS/BA	7.4
MS/MA	35.1
PhD	50.0
Other	5.4
Primary discipline	
Sociology	1.1
Agricultural economics	1.1
Economics	8.5
Consumer economics	11.8
Consumer economics +	6.5
Family economics	20.4
Family economics +	7.5
Home economics	23.7
Home economics +	8.6
Other	7.5
No response	4.3
Current employment	
College	61.7
Industry	1.1
Federal Government	5.3
State or local government	2.1
Consultant	1.1
Nonprofit corporation	5.3
Consumer	1.1
Extension	14.9
Retired	6.4
No response	2.1

Characteristic	Percentage
Employment responsibility	
Resident instruction	37.2
Research	30.9
Outreach education	42.6
Data processing	1.1
Administration	13.8
Advising	2.1
Counseling	5.3
Retired	4.3
No response	2.1
Primary area of focus	
Agricultural cooperatives	1.1
International trade	1.1
Consumption & demand	23.4
Demography	4.3
Community development	2.1
Issues	4.3
Consumer economics	5.3
Consumer education	8.5
Law	5.3
Family economics	23.4
Financial management	12.8
Corporations	3.2
No focus	9.6
Retired/No response	11.7

Table 2. Ranking of the Ten Most Important Data Sets.

Data Set	ACCI Members N=9	Consumption & Demand Analysts N=300	All Respondents N=2992
Consumer Expenditure Survey	1.0	2.0	
Consumer Price Index	2.0	1.0	3.0
Family Budgets	3.0		
Census of Population & Housing	4.0	5.0	2.0
Current Population Survey	5.0	6.0	4.0
Personal Consumption Expenditures	6.5	4.0	
Panel study of Income Dynamics		6.5	
Employment and Earnings-States		8.5	
Employment and Earnings-U.S.		8.5	
Household Food Consumption Survey	10.0	3.0	
Food Consumption Statistics		7.0	
Food Expenditures		8.0	
Census of Agriculture		9.0	1.0
Producer Price Index		10.5	
Food Intake by Individuals		10.5	
Farm Costs and Returns Survey			5.0
Prices Received by Farmers			6.0
Prices Paid by Farmers			7.0
County and City Data Book			8.0
Agricultural Outlook			9.0
Economic Indicators of the Farm Sector			10.0

Table 3. Very Important Issues.

	ACCI Members N=9	Consumption & Demand Analysts N=300	All Respondents N=2992
Household demand and consumption of food			
Disaggregate CES data into quantities and prices.	46.80	54.35	18.80
Collect data on food raised for direct consumption.	19.10	22.34	10.40
Reinstate BLS family budgets.	77.70	36.30	14.80
Establish consumer panel data.	51.10	55.35	20.20
Collect data on quantity and value of food in retail sector.	18.10	39.00	16.60
Develop food quality index.	20.20	29.62	14.50
Develop measures of food safety.	48.90	41.29	29.40
Quality of statistics			
Publish standard errors.	36.20	46.68	36.80
Develop estimates of nonsampling errors for major published statistics.	35.10	41.99	33.20

Table 4. Ranking of Very Important Issues.

	ACCI Members N=9	Consumption & Demand Analysts N=300	All Respondents N=2992
Household demand and consumption of food			
Disaggregate CES data into quantities and prices.	4	2	3
Collect data on food raised for direct consumption.	6	7	7
Reinstate BLS family budgets.	1	5	5
Establish consumer panel data.	2	2	2
Collect data on quantity and value of food in retail sector.	7	4	4
Develop food quality index.	5	6	6
Develop measures of food safety.	3	3	1
Quality of statistics			
Publish standard errors.	1	1	1
Develop estimates of nonsampling errors for major published statistics.	2	2	2

WORKSHOP RECOMMENDATIONS

The Economic Statistics Committee of the American Agricultural Economics Association (AAEA) held a workshop "New Directions in Data, Information Systems, and Their Uses" in July, 1989. The workshop built on their survey of members of AAEA, the Rural Sociological Society, Association of Environmental and Resource Economists, Community Development Society, the Food Distribution Research Society, the socioeconomic section of the American Fisheries Society, and ACCI.

Based on the survey results for demand analysts and the views of those attending the workshop, the discussion group on food demand recommended federal efforts to revise statistics focus on five needs (Table 5). The first priority was to improve the data collected on food away from home, an issue not identified in the survey. Food away from home was identified as the top priority because the amount and quality of data are low and the absence of data affects both producers and consumers because food away from home accounts for a large portion of agricultural output and consumer expenditures. Furthermore, both policymakers and academicians were interested in improved data on food away from home, policymakers because of agriculture subsidies and academicians because of the specification of demand functions and estimation of household production functions.

Table 5. Top Five Data Needs of Demand Analysts Attending "New Directions in Data Information Systems, and Their Uses."

Priority Ranking	Data Need
1	Food Away From Home
2	Food Safety & Quality
3	Disaggregation of Expenditures
4	Wage Rates for Individuals
5	Panel Data

The second priority was food safety and quality issues. Although demand analysts ranked this item lower in the survey, participants ranked it second out of consideration for its importance to other survey respondents and acknowledgement of the importance of policy in assuring food safety and quality. Assurance of food safety and quality was believed to be an important government function and an important function to inform with research based on nonproprietary data.

Disaggregation of expenditure data was the third priority. Disaggregation was a high priority for the academicians present, but only weak arguments were made for the policy implications. The chief argument made was that disaggregation would greatly improve estimation of demand functions at very little cost, since price data also are collected for the consumer price index. The same argument was made for dissemination of data on wage rates for individuals compatible with expenditure data. Wage rates were viewed as relevant prices for specification of demand functions for food, particularly food away from home.

Creation of a panel data set for the purpose of demand analysis was the fifth priority in the recommendations. The belief was that creation of a panel of households was feasible within the sampling structure of the consumer expenditure survey, and panel data would improve our ability to anticipate changes.

While two of the recommendations did not flow from survey results, the three which did were among the top four priorities identified by ACCI members. It might be inferred ACCI members would have ranked panel data, the fifth priority, first. ACCI members did agree with the recommendation that food safety was a higher priority than disaggregation of expenditure data. To the extent that the workshop recommendations are influential, they will advance the views of ACCI members.

IMPLICATIONS

At the workshop sponsored by the Economic Statistics Committee the point was made that federal statistics are created and maintained for the purpose of informing public policy decisions. We need to keep this point in mind when framing our support for the Bureau of Labor Statistics, the source of our most important data sets. We also need to keep this point in mind when expressing the need for them to reinstate family budgets. Many of you may find a persistent potential use for the family budget data is adjustment of expense estimates for changing family composition such as death of a family member. This use has little to do with public policy. Another potential use has a great deal to do with public policy, the cost of rearing a child for determining child support or the cost of minimum maintenance for spousal support or noncustodial parent support. Most state child support guidelines have ceilings and floors, meaning that noncustodial parents with very high and very low incomes do not have to follow them. Having budget figures for these income extremes would be particularly helpful. Clearly, low income budgets have more potential uses and should be a higher priority.

A perusal of the programs of this year's conference and last year's indicates members are interested in the public policy surrounding the issues of child support and divorce reform and food safety. What other policies do we wish to inform through federal statistics? Does ACCI wish to be a member of COPAFS or provide any other formal mechanism for influencing decision making surrounding data sets important to us?

REFERENCES

Hushak, Leroy J., Chern, Wen S., & Tweeten, Luther. (1989). "Priorities for data on agriculture and rural areas: A survey of agricultural and rural social scientists." Unpublished manuscript.

THE HOUSEHOLD PRODUCTION FUNCTION: DATA AND ESTIMATION PROBLEMS

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Data and estimation problems of household production functions are discussed. Both are interrelated and dependent on the structure of the underlying model of the household in which the production function is situated. The household production functions that should be the focus of the research of consumer as opposed to family economists relate to the production of quality and price information, the home production of safety and health, and other functions that undergird consumer policy discussions.

While the concept of a household production function has been widely used in interpreting a variety of household behavior from consumer demand and household time use to marriage, estimates of the parameters of household production functions have been few and far between.[2] There have been three reasons for the relative paucity of such estimates: data problems, estimation problems and the fact that such estimates have not been needed to solve the problems studied. This paper focuses on some data and estimation problems involved in estimating household production functions.

HOUSEHOLD PRODUCTION FUNCTIONS: THE CONCEPT

The concept of a household production is deceptively simple. A production function describes the relationship amongst the inputs and outputs of a production process. For a simple one output-several input production function, it specifies the level of output produced by each combination of inputs used. Furthermore, as used in most economic models, it is a frontier concept in the sense that the function specifies the maximum output produced for each combination of inputs used.

The information required to estimate the parameters of the function depends upon some subset of six items:

a. data on output;
b. data on inputs;
c. data on input prices and households' unearned income;
d. knowledge of the production function's algebraic form;
e. knowledge of the objectives of the households engaged in the production process under study; and
f. the constraints under which they operate.

Simply to focus on input and output data problems is to miss a significant part of the data problems. This is so because the data problems are relative to the algebraic form of the function and to the model in which the household production function is embedded. In consequence, we discuss the latter three issues first.

ESTIMATION POSSIBILITIES AND PROBLEMS

The objectives of households engaged in a production process and the constraints within which they operate determine the range of estimation possibilities open to the analyst. The modern interest in the parameters of household production functions derives from the Beckerian view that households derive satisfaction from household produced and consumed goods and services and that household members' time and purchased goods and services are the inputs into household production. Consequently, I will assume that satisfaction maximization is the objective of households. This reduces the discussion to differences in the constraints households face. Two cases will be discussed.

A. Households Have Choice over the Hours Spent in Paid Employment - Typically Assumed by Labor Economists:

Suppose for simplicity that the households under study are one person households who maximize satisfaction by engaging in two household activities,

$$G = g(X_g, H_g) \text{ and} \tag{1}$$

$$R = r(X_r, H_r), \tag{2}$$

where: G and R are outputs and X_i and H_i ($i = g, r$) are goods and time inputs into the respective processes. We are interested in estimates of the technical parameters of g(.). Good R is viewed as a composite commodity representing all other household production. Suppose that the household's utility function is:

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[2] See: W. Keith Bryant, J. L. Gerner & U. Henze, "Estimating Household Production Functions: A Case Study," in Karen P. Goebel (ed.) Proceedings of the 29th Annual ACCI Conference, March 16-19, 1983, Kansas City, MO, pp. 179-183; M. Sanik and K. Stafford, "Household Production Functions for Food Preparation," in Karen P. Goebel (ed.) Proceedings of the 29th Annual ACCI Conference, March 16-19, 1983, Kansas City, MO, pp. 168-172; and, R. Gronau (1980), "Household Production -- A Forgotten Industry," Review of Economics & Statistics, 62(3):408-416.

$$(3) \qquad U = u(G, R; P_o, P_u);$$

where P_o is a vector of observed variables that affect household preferences and P_u is a vector of unobserved, exogenous variables that also affect household preferences;[3] the time constraint is:

$$(4) \qquad T = H_g + H_r + M,$$

where M = time spent in paid employment; the expenditure constraint is:

$$(5) \qquad px(X_g + X_r) = Y$$

where: p_x = market price of purchased inputs, and Y = household income; and, household income is:

$$(6) \qquad wM + V = Y,$$

where: w = wage rate at which paid employment is recompensed and V = unearned income. Finally, suppose that households fail randomly to achieve maximum satisfaction given the constraints, either because they make mistakes in choosing the optimal levels of G and R to produce, or because they make mistakes in optimal input use. These mistakes may be termed management error.[4]

Given the assumptions above, the production function can be written as:

$$(7) \qquad G_i = g(X_{gi}, H_{gi}) + e_{gi}$$

where e_{gi} = combined effects of the random management error on household i's output of G and the unobserved vector of exogenous variables affecting household preferences.

On the assumption of a specific functional form for g(.) and data on both outputs and inputs, the analyst might incorrectly proceed with its estimation via OLS. The reason it would be incorrect is that the model assumes that households choose levels of X_g and H_g to produce a level of G that will maximize satisfaction along with R. But, the random management error affects not only G but also X_g and H_g: management errors in choosing levels of G that don't maximize satisfaction imply choosing the wrong levels of X_g and H_g to produce G; management errors in choosing the non-optimal combinations of X_g and H_g to produce G will result in non-optimal levels of G. So, regardless of where the management errors occur, observed levels of outputs and inputs will be affected. This means that the e_{gi} will be correlated with X_g and H_g, violating the assumptions of OLS. Without dealing with these correlations, the resulting estimates of the production function can be badly biased.

Given the assumptions, there is an indirect way of estimating the parameters of the household production function. Given the explicit recognition of household production, the utility function is weakly separable in input space. Consequently, one can estimate the derived input demand functions for X_g and H_g conditioned on the level of G the household demands. These determine the least cost amounts of X_g and H_g needed to produce the optimal level of G. These derived input demand functions can be written as:

$$(8) \qquad X_g = x(p_g, w, G) + e_{xi}$$

$$(9) \qquad H_g = h(p_g, w, G) + e_{hi}$$

where: e_{ji} (j = x, h) = random error component of input j. Since these functions show how households will change their level of input use as input prices and output change, they must describe movement along iso-quants as input prices change and between iso-quants as G changes. Therefore, the coefficients of the functions must be functions of the underlying parameters of the production function. With suitable mathematical manipulation of these functions, estimates of the parameters of the underlying production function can be extracted.

The unwary analyst might again be inclined to estimate (8) and (9) with OLS. But, the same problem of bias arises and for the same reason. Random management mistakes imply that the e_{ji} are correlated with G, thus violating the assumptions of OLS.

A solution to these similar problems, of course, is instrumental variables. If one wants to estimate the production function (i.e., equation (7)) directly, then one can first estimate the household's demand functions for X_g and H_g (i.e.,

$$(10) \qquad X_g = d_x(p_g, w, V, P_o) + u_{gi}$$

$$(11) \qquad H_g = d_h(p_g, w, V, Po) + u_{hi}$$

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[3] An alternative, and today quite common, treatment of the unobserved variables affecting satisfaction regards them not as preference shifters but as objects of satisfaction on an equal footing in the utility function as R and G. Consequently, rather than taking P_u as given, households choose levels of G, R and P_u that maximize satisfaction. This treatment makes P_u endogenous, not exogenous, and causes statistical problems referred to in the literature as "heterogeneity of preferences." See M. Rosenzweig and K. Wolpin (1980), "Life-cycle Labor Supply and Fertility: Causal Inferences from Household Models," Journal of Political Economy, 88(2):328-348, April, for instance. Since the solution to heterogeneity is the same as for the management error that is assumed below, it is not discussed further.

[4] The assumption of random management error is one of many assumptions that justify the addition of a stochastic error term to what would otherwise be deterministic demand or production functions. The assumption of unobserved exogenous or endogenous variables affecting the preferences of households is another way to justify stochastic error terms.

where u_{ji} ($j = x, h$) = random error terms)[5] and use the predicted values of X_{gi} and H_{gi}, $\hat{H}_{gi}$ and $\hat{X}_{gi}$, as right-hand side variables in (7). Alternatively, one can estimate the household's demand for G (i.e.,

$$(12) \qquad G_i = d_g(p_g, w, V, P_o) + u_{gi}$$

where u_{gi} = random error term) and use the predicted value, $\hat{G}_i$, in place of G_i in the estimation of (8) and (9).

In sum, given the labor economist's usual assumption that individuals have control over their hours of paid employment, there are two ways of estimating some or all of the parameters of a household production function: directly or indirectly by estimating derived input demand functions. Either way requires data on the vector of preference shifters, the prices of inputs and on unearned household income as well as output and inputs. The data requirements are, therefore, substantial.

B. Households Have No Choice Over Hours of Paid Employment - Typically Assumed by Consumer Economists:

In contrast with the usual assumption made by labor economists that individuals choose the number of hours they spend in paid employment, many consumer economists maintain that hours of work are set by employers or are otherwise out of the control of individuals. This imposes an added constraint (i.e.,

$$(13) \qquad M = M^*$$

where M^* = hours of paid employment set by employer) to the model contained in equations (1) through (7) above. Such an assumption means that the market earnings and, therefore, total household income are exogenous and given to the household. Further, the household allocates the remaining time (i.e., non-market time) and purchased inputs, $X = X_g + X_r$, (that can be purchased with its given income) between the production of G and R.

The direct estimation of the production function, g(.) in equation (7), is made somewhat more difficult by such an assumption. Since M is determined exogenously, the price of H_g is not w[6] and the set of exogenous variables with which to estimate $\hat{X}_g$ and $\hat{H}_g$ (i.e., p_g, V, and P_o) no longer includes w. Further, since Y is now exogenous, it can replace V as a right-hand side variable. Because total household income is usually measured with smaller error than unearned income, V, measurement error bias may be reduced.

Similarly, if one estimates the derived input demand functions, estimation of the instrumental variable, $\hat{G}_i$ from equation (12), involves one fewer right-hand side variable. w is no longer available for use as an exogenous variable because it is no longer a component of the prices of G and R. The market wage rate is equally not available as a regressor in the derived input demand functions because it is not the price of nonmarket time. Fewer regressors but somewhat less measurement error may, therefore, result from the added assumption that paid employment is fixed to the household.

If the assumption is incorrect, then the analyst is denied the use of the wage rate as an exogenous variable that would help to determine the instrumental variables for either input use or output levels. And, because Y is endogenous, its use as a regressor causes statistically biased coefficients. Of course, the question is an empirical one: are individuals' market hours fixed or not? To date, neither labor economists or consumer economists have been convinced by the other's evidence and arguments. I believe that the empirical evidence presented by labor economists is too strong to deny.

Specifying the Form of the Production Function

The implications for data of the algebraic form of the production function are simple: the fewer parameters the function has, the smaller the data set required to estimate it. This point can be made quite simply with the Cobb-Douglas function:

$$(14) \qquad G = \theta {H_g}^{\beta} {X_g}^{\alpha}$$

Here in its simplest form, there is one more parameter to be estimated than there are inputs. If household production exhibits constant returns to scale, then $\beta = 1 - \alpha$ and there are the same number of parameters to be estimated as there are inputs in the production process. The data implication is straightforward: under constant returns to scale, data on one input need not be available so long as data exist on its price. Furthermore, if it can also be assumed that all households in the sample face the same price for this input, then neither data on the use of the input nor its price are needed to estimate the parameters of the household production function. Additionally, the problem of endogeneity caused by random management errors evaporates.[7] Strong assumptions can, thus, solve both data and statistical estimation problems. If the assumptions are not warranted, however, they can lead to great error.

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[5] Note that these functions are quite different from the derived input demand functions conditional on output. Equations (10) and (11) are the input demand functions unconditioned on output. Because G does not appear as a right-hand side variable in (10) and (11), there is no problem of correlation between the u_{ji} and p_g, w, V, or P_o).

[6] The price of H_g is its opportunity cost in the production of R which is $u_r r_h$ where: u_r = marginal utility of R and r_h = marginal product of time in the production of R. Since $u_r r_h$ presupposes the estimation of both the utility function and the production function for R, searching for an exogenous measure of the "price of H_g" is fruitless.

[7] Assume, for instance, that the production function is Cobb-Douglas and does exhibit constant returns to scale. Then equation (14) can

But, one need not assume a specific form for the production function. One can, instead, estimate derived input demand functions conditioned on output that are derived from translog cost functions. Such functions are approximations to any production function and some of the production parameters of the underlying production function can be extracted from estimates of their coefficients.[8]

DATA PROBLEMS PER SE

We come, finally, to the data problems themselves. It has previously been said that in order to estimate household production functions, one needs data on inputs and output along with the prices of the inputs, data on unearned income or total family income, and on family preference shifters. This is a tall order and one that no public use data set produced by the U.S. Government meets. Most conspicuous by their absence are data on the time use of family members and on the outputs of household activities. Even the time-use data sets produced by the Survey Research Center lack output data. And, even if such data were available, the analyst then faces the same problems that demand analysts face in not having access to the prices of goods and

not having access to the prices of goods and

services. While we may assume that consumers in cross-section face the same prices of goods and services, no consumer economist readily believes it. Furthermore, I am sceptical of the ability of the techniques recently developed by Deaton to extract information on price effects from advanced country, cross-section expenditure samples containing no price data.[9] Finally, the sample selection and missing data problems underlying the data on the price of family members' time use are daunting.[10]

SO WHAT

The conclusion must be that public use data collected by U.S. Governmental agencies contain monumental data problems if they are to be used to estimate household production functions. Are we immediately to plead with BLS, the Census Bureau, the Labor and Agriculture Departments to beef up their data collection efforts so that we can estimate household production functions? Before doing so, we need to decide which household production functions we as consumer economists want to estimate and for what purpose. Intellectual curiosity is not a sufficient reason for lobbying Congress to expand the nation's statistical system. The information on household production relations must be necessary for the solution of pressing consumer policy problems. Three that come immediately to mind are the household production of safety and health, and, to focus on environmental policy, the household production of garbage and trash.

If there are data problems that truly beset consumer economists, they are the data problems that prevent us from saying much that is empirical about the consequences for the consumer of the lack of price and product quality information, the extent of product-related injury and death, the incidence of medical malpractice, the effectiveness of our product liability laws, the effectiveness of deregulation, and the host of other consumer policy issues that confront us. The estimation of household production functions, I suspect, will contribute little to the research on these issues. Until we seriously wrestle with and overcome these data problems, what few consumer policy analyses we are able to conduct will lack empirical cogency, and our promise to solve consumer problems will be largely unmet.

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be written as

$$(15) \qquad G = \theta H_g{}^{1-\alpha} X_g{}^{\alpha}$$

and the analagous derived demand function for H_g conditioned on output is

$$(16)\ \ln H_g = \ln[A^{-1}(\alpha/(1-\alpha))^{-\alpha}] - \alpha\ln(w/p_x) + \ln G$$

Because of constant returns to scale, the coefficient on $\ln G_i$ is known to be one. $\text{Ln}G_i$ can be carried to the left-hand side of the equation, therefore, and subtracted from $\ln H_g$. This avoids the necessity of finding an instrumental variable for G because $\ln G_i$ is no longer a right-hand side variable. Furthermore, assume that households in the sample face the same prices of purchased inputs, r. Such an assumption is common in cross-section analyses. Provided that data on output, G, time input, H_g, and the price of time, w, are available, then the derived input demand function for H_g can be written as

$$(\ln H_{gi} - \ln G_i) = a_o + a_1 \ln w + e_{hi}$$

and estimated by OLS where:

$$\alpha = -a_1; \text{ and}$$

$$A = [\text{antilog } a_o]^{-1}[-a_1/(1+a_1)]^{a1}.$$

[8] See B. R. Beattie and C. R. Taylor (1985), The Economics of Production, New York: J. Wiley & Sons, or R. G. Chambers (1988), Applied Production Analysis, Cambridge: Cambridge U. Press.

[9] See A. Deaton (1987), "Estimation of Own- and Cross-Price Elasticities from Household Survey Data," Journal of Econometrics, 36(1-2):7-30, Sept-Oct. His technique assumes large transportation costs between spatial markets and no quality-adjusted price variation within spatial markets. Experience in the US suggests that the reverse is the case.

[10] For a good introduction to these problems see M. Killingsworth (1983), Labor Supply, Cambridge: Cambridge U. Press, pp. 78-100.

INCOME EQUIVALENCE CALCULATIONS FOR DIVORCE DECISIONS

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This paper demonstrates how income-to-needs ratios can: (a) be used to compare the income equivalence of two households, (b) aid in the divorce negotiation and decision-making processes, (c) enhance legal and judicial education regarding the consequences of financial decisions at divorce, and (d) change the assumptions which guide division of incomes at divorce. The information is from a random sample of court case records in Minnesota and concerns 1986 divorces with minor children.

INCOME EQUIVALENCE CALCULATIONS FOR DIVORCE DECISIONS

How Much Income to Transfer?

A legitimate concern of divorcing parties, attorneys, and judges is how much income should be shifted to the custodial-parent household in order to provide reasonable levels of living for all family members. There are state guidelines for amounts of child support payments, but judges are free to deviate from these guidelines. It is difficult to determine an appropriate dollar amount of the income transfer, particularly when spousal maintenance payments are also involved. An effective method for comparing the two household incomes is needed by judges to assist them in the decision-making process. Teaching judges and attorneys to calculate income-to-needs ratios in order to evaluate income equivalence of two households could be an important step toward gender equity in divorce settlements. The underlying assumption of this methodology is that the incomes of the two households should be allocated so that each of the households has income in proportion to its adjusted family size (Lazear & Michael 1988, p. 158).

Comparisons of economic well-being across households are difficult because only the financial assets and money income components of economic well-being can be easily measured. Household labor, capital, and management incomes, as well as physical and human capital assets, are forms of non-money resources and are important determinants of economic well-being, but are difficult to quantify. The courts examine only the stock of financial assets and money incomes of families as indicators of economic well-being. The concern of the court is to transfer money income from the noncustodial to the custodial parent household to provide adequately for the needs of the child(ren). Income adequacy is defined in this paper as the extent to which money income meets reasonable needs (Morgan & Duncan 1982). The above definition assumes that the measure of income adequacy is the ratio of income in the numerator to some standard of income needs in the denominator. This ratio-based measure of economic well-being is called an income-to-needs ratio.

Income-to-needs ratios are more accurate than per capita income for comparing the income adequacies of two households. Per capita income does consider the demands on income but fails to account for the marginal costs of a second or third person added to a household. Per capita income gives a measure of income available per person but does not indicate income needs or the adequacy of the income per person. Per capita income is also not an appropriate concept to use when income is not distributed evenly in families to persons within the group. The average household typically allocates about 2.5 times the amount of income to an adult as it does to a child (Lazear & Michael 1988, p. 111). Thus, "the common practice of treating all family members as if they are in the same financial boat is surely a gross oversimplification" (Lazear & Michael 1988, p. 147).

The problem judges face in divorce cases is that of determining a simple yet effective way to compare levels of living across two households of differing incomes and sizes. This economic problem has captured the attention of economists since 1895, when Ernst Engel addressed the question. The methodology of computing income equivalence across households has a long history in family economics and there is an extensive literature on the topic.

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The details of the methodology are beyond the scope of this paper but the interested reader can refer to the following sources for a more complete explanation: Barten (1964), Deaton & Muellbauer (1980), Lazear & Michael, (1980, 1988), Muellbauer (1977, 1980), Prais & Houthakker (1971), and Pollak & Wales (1979). The use of income-to-needs ratios in family research can also be found in several recent publications (Christensen 1987; Christensen & Rettig in press; Downey & Moen 1984; Duncan 1984; Hoffman & Duncan 1988; Hoffman & Holmes 1976; Morgan 1989; Rettig & Christensen 1988; Smith & Zick 1986; Zick & Smith 1988). The income equivalence methodology has been used in the United States for developing the poverty level income guidelines.

Calculation of Income-to-Needs Ratios

The poverty level guidelines were developed as an attempt to specify the minimum money income that could support a person or family at the lowest level of living consistent with the standards of living for this country. They are based on the amount of money needed to purchase a nutritionally adequate diet, on the assumption that no more than one third of the income is spent for food (Orshansky 1969, p. 38). Two households that spend the same percentage of income on food are assumed to be equally well off. The amount of money income required for different household sizes is then calculated. The poverty level income guidelines for the continental United States in 1986 were: (a) $5,360 for one person, (b) $7,240 for two, (c) $9,120 for three, (d) $11,000 for four, and (e) $12,880 for five persons (Family Economics Review 1987, p. 23). These income levels by household size were assumed to represent a minimum subsistence level of living in 1986 and therefore represented an income needs standard.

The money incomes of households can be compared to the poverty levels for one indicator of income adequacy. If one divides the household income by the poverty level for the household size, this results in an income-to-needs ratio. If the ratio is equal to one, it means that the income is meeting a minimum subsistence level of living for the household. The ratio for one household can then be compared to that of a second household to determine which of the incomes is more "adequate," according to a minimum subsistence needs standard. The incomes of the two households are comparable because a common denominator has been used. Placing the incomes on a comparable standard of income needs for the denominator, such as poverty level incomes, gives guidance about the adequacy of the incomes in each household based on a national policy standard.

Comparison of Income-to-Needs Ratios Across Households

The method of calculating income-to-needs ratios and comparing them across households is demonstrated by using data from a recent study. Data were collected from 1,153 randomly selected court case records in the ten judicial districts in Minnesota. These were divorces with final decrees in 1986 in which there were minor children. The cases in the total sample represented 19% of the 6,117 divorces with minor children and 8% of the 14,411 total divorces in the state for that year. The sample for this paper includes cases in which sole physical custody was awarded to one parent and income information was present in the court records (n=504).

Table 1 demonstrates the method of calculating income-to-needs ratios.[5] The economic well-being of custodial and noncustodial parents is compared (using the median for the study sample) after the transfer of the amount of child support recommended by the state guidelines. The better position of noncustodial parents is evident. The economic well-being of each parent would decline after divorce, but the greatest decline would be for custodial parents if the guidelines were strictly observed. The incomes of the two households would be equivalent if the difference between the two ratios were equal to zero.

TABLE 1. Income Equivalence of Households Based on Median Incomes and State Guidelines Child Support Amounts for 1986 Dissolutions, Sole Physical Custody

	Custodial Parents	Child Support Obligors
Yearly Net Income	$9,600[a]	$14,442[b]
Minnesota Guideline Annual Child Support	+$4,209[c]	-$4,209
Post Divorce Net Income After Transfer	$13,809	$10,233
Poverty Level (1986)	$9,120 (3 persons)	$5,360 (1 person)
Ratio of Income to Needs:[d] Two Children Families	$\frac{\$13,809}{\$9,120} = 1.51$	$\frac{\$10,233}{\$5,360} = 1.91$[e]

[a] n=420 cases
[b] n=504 cases
[c] n=495 cases
[d] 1=poverty level, 1.25 = near poor
[e] Intact families = $\frac{\text{yearly net income}}{\text{poverty level for four}}$ $\frac{\$24,042}{\$11,000} = 2.18$

A specific case is used in Table 2 to demonstrate the economic consequences of divorce for one family in the sample by comparing the income-to-needs ratios before and after divorce. This is a case in which the child support award was below the state guidelines and no spousal maintenance was awarded. If the judge had calculated the ratios and compared the income equivalence of the two households, it is less likely that the decision would have been the same. It is difficult for the outside observer to find the equity in this divorce settlement without at least looking at the property division or seeking additional information.

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[5] The example departs from other research by using net income instead of total household income. Total household income was usually not available in the court records, since state child support guidelines are based on the net income of the obligor.

TABLE 2. Comparison of Income-to-Needs Ratios for Custodial and Noncustodial Parent, Case # 19

	Custodial Parent	Child Support Obligor
Yearly Net Income ($51,624)[b]	$7,152	$44,472
Yearly Child Support Award	+$9,000	-$9,000[bc]
Post-Divorce Net Income After Transfer	$16,152[d]	$35,472[e]
Poverty Level Income (1986)	$9,120 (3 persons)	$5,360 (1 person)
Ratio of Post-Divorce Net Income to the Needs Standard	$\frac{\$16,150}{\$9,120} = 1.77$	$\frac{\$35,472}{\$5,360} = 6.62$[a]

[a] Pre-divorce income-to-needs ratio: $\frac{\$51,624}{\$11,000} = 4.69$

[b] Two children, ages 17 and 14 years in 1986. Monthly child support of $750 is 20% of noncustodial parent's monthly net income of $3,706 and 10% below the state child support guidelines.

[c] The $9,000 child support award is $4,500 per child per year and an income per child of $86.54 weekly. The $4,500 is 73% of the $6,178 cost of raising a 17-year-old and 79% of the $5,641 cost of raising a 14-year-old in 1986.

[d] Post divorce net income of $16,152 is 31% of pre-divorce net income. Post-divorce per capita income of $5,384 is 42% of pre-divorce per capita income of $12,906. The change in per capita income is $5,384 - $12,906 = -$7,522 divided by $12,906 = -.58 or -58%.

[e] Post divorce net income of $35,472 is 69% of pre-divorce net income. Post-divorce per capita income of $35,472 is 275% of pre-divorce per capita income of $12,906. The change in per capita income is $35,472 - $12,906 = $22,566 divided by $12,906 = 1.75 or +175%.

The importance of actually calculating the income-to-needs ratios increases when parental incomes are more similar ($9,325 and $15,672). Suppose that an annual child support award of $5,016 is subtracted from the noncustodial parent's net income, resulting in a net income of $10,656. The child support award is added to the custodial parent's net income, which now becomes $14,341. The noncustodial parent, typically the father, complains bitterly that he is being treated unfairly, since the custodial parent's income is so much higher. When the income-to-needs ratios are computed, however, the situation appears to be different. The attorney or mediator divides the custodial parent's $14,341 by the poverty level for a household of three ($9,120 in 1986) and shows that the income of the custodial parent is only 1.57 times above the poverty level. The non custodial parent's income of $10,656 is divided by the poverty level for a one-person household ($5,360 in 1986), which shows that his income is 1.99 times above the poverty level. Neither parent has a very high level of living, but the two households are not far apart, and the noncustodial parent is slightly "better off" that the custodial parent in this example. The calculation can thus provide important information for attorneys and mediators in the negotiation processes of divorce.

Using Income-to-Needs Ratios in Court Decisions

Difficult court decisions concerning allocation of resources between custodial and noncustodial households must be made on a case-by-case basis, because no single standard or methodology works effectively for all family situations. Uniformity of rules or procedures does not accomplish equity or fairness in all situations. Under the assumptions of the current legal system, attorneys and judges need to use this methodology as an aid in the decision-making process and not as "The Decision Rule" for all cases. The first step in the decision process can be the comparison of the income equivalence of the two households after the transfer of the child support amount.

We have been working cooperatively with one family court judge to develop worksheets that can be used by judicial officers as a first step in examining equity of income for the new households of the divorced family. The first part of the worksheet outlines the process of calculating and comparing the income-to-needs ratios with the post-divorce net incomes after the transfer of the child support money. The second part of the worksheet adjusts the incomes so that the two income-to-needs ratios will be equivalent. The greatest advantage of the methodology is that the income adequacy of two households can be compared and a number can be calculated for how much income should be shared by the highest income earner in order to achieve equivalence. The worksheet gives the poverty level income guidelines for 1989 which are appropriate for use with 1989 incomes.

The comparison of income-to-needs ratios for two households makes the assumption that a judge should "allocate the income between the two households so that each of the households has income in proportion to its adjusted family size: The household as the unit of analysis" (Lazear & Michael 1988, p. 158). The use of the poverty level as the income needs standard in this paper is similar to the methodology discussed by Lazear & Michael (1988) for their fourth criterion resource allocation rule. The Lazear and Michael (1988, p. 158) adult equivalents formula allowed the noncustodial household of one person 35% of the combined pre-divorce incomes and the custodial household of three persons 65% of the combined pre-divorce incomes. The use of the poverty level income guidelines, rather than calculating income needed by adult equivalents, is slightly more favorable to the noncustodial household. The present method gives the noncustodial household 37% and the custodial household 63% of combined poverty level incomes when there are two children in the family. For one-child families, the custodial household receives about 57% and the noncustodial household receives 43% of combined poverty levels for the two households (Table 3).[6]

TABLE 3. Percentage of Combined Poverty Level Incomes Allocated to Custodial and Noncustodial Parent Households Using the Present Worksheet

Family Size	Percentage to Custodial Household	Percentage to Noncustodial Household
One Child	.575	.425
Two Children	.629	.370
Three Children	.672	.328
Four Children	.706	.294
Five Children	.735	.265

The use of this worksheet has some disadvantages for high-income parents. The transfer of income between households using the income-to-needs ratios may not be appropriate for family situations in which the custodial parent is the one who has a significantly higher income. Should this person transfer income to a household without the children? The noncustodial parent with the significantly higher income will risk having to share a greater portion of income with the custodial household than may seem reasonable to many people. The case example first reported in Table 2 is calculated on the worksheet in Table 4 and demonstrates this risk. The 1986 poverty levels were used in this example because the income data were from 1986. The child support obligor would be required to transfer $25,371.12 to the custodial household, which is 57% of the yearly net income of $44,472. The $25,371 is theoretically more than is needed for child support ($6,178 + $5,641),[7] and so the remainder of $13,552 could be designated as spousal maintenance or saved for postsecondary education if the transfer of income were completed.

The weaknesses of poverty level guidelines as indicators of income needs also apply to the present study. Poverty levels do not allow for variations in income needs by age of children or gender composition of families. The poverty level considers only current money income and ignores year-to-year changes in income, as well as assets, fringe benefits, and non-money incomes. The "increases in poverty level incomes over the years have not increased at the same rate as the median income of families" (Orshansky 1968, p. 6). Thus, the poverty level incomes are increasingly below median incomes for families of the same size.

Despite these limitations, the use of income-to-needs ratios to compare the income equivalence of two households is important in decision-making processes during divorce. When used with discretion, the calculations provide valuable information to assist mediators, attorneys, and judges in evaluating the equity of the settlement. Education of attorneys and judges in the use of these calculations can occur informally, in speeches (Rettig 1987b), in more formalized educational settings (Rettig 1987a), through legal publications (Rettig & Christensen 1988), in research reports (Rettig et al. 1989), and in public testimony (Christensen 1988; Rettig 1988). Worksheets have also been used as an educational method with some success in other states (Beninger & Smith 1988). The most effective education may be for judges to teach themselves.[8] The educational sessions need to include discussions of the limitations of the methodology as well as the values and assumptions underlying its use.

Assumptions of the Methodology

The use of income equivalence calculations within the current system of child support guidelines gives a judge some justifiable reasons for deviating upward or downward from the guidelines when awarding child support. The objective calculations outline differences in levels of living for the two households and thus aid attorneys and mediators in negotiation and judges in the decision making process. If the methodology were adopted as a public policy and used as a decision rule for most cases, then child support guidelines would no longer be needed. It is unlikely that the policy will be changed in the near future, but the use of the methodology as a decision guideline also involves using different assumptions about division of resources at divorce.

Those who feel child support guidelines should be consistently and rigidly enforced and judges should have less discretion in individual cases may disagree with the comparison of income equivalence across households. The methodology allows more judicial discretion in each case by calculating income needs for each household and making individual decisions based on other relevant factors in that particular situation. The value of uniformity across cases at the same income level is sacrificed for the value of equality between custodial and noncustodial parents of the binuclear family.

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[6] See also Williams (1985, p. 33). The estimates of expenditures on children as a proportion of net income as calculated from Espenshade (1984) are: for low socioeconomic status, one child was 25.6%; for two children 39.7%; and three children 49.7%. The addition of the expenditure needed for the caretaker parent makes the percentages in Table 3 seem reasonable.

[7] Family Economic Review (1987), "Updated Estimates of the Cost of Raising a Child, 2: 36.

[8] We have appreciated the interest of Judge Mary Louise Klas, who has talked about our methodology in both legal and judicial educational settings, has advanced our techniques, extended the worksheet to include spousal maintenance calculations, and is presently working on computerizing the calculations for ease of use in the courtroom.

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TABLE 4. Worksheet Determining Income-to-Needs Ratios for Two Households After Transfer of Child Support[a]

		Custodial Parent Household	Non-Custodial Household
1.	Yearly net income: ($596 x 12) ($3706 x 12)	$ 7,152	$ 44,472
2.	Child support amount (guidelines or previously-ordered): ($750 per month x 12)	+ 9,000	9,000
3.	Net income after adding c/s to custodial and subtracting c/s from non-custodial:	$16,152	$35,472
4.	Poverty level for each household size:[b] 2 no. of children	9,120	5,360
5.	Income-to-needs ratio: (line 3 ÷ line 4 and include 2 decimal places	1.77 R1	6.62 R2
6.	Difference in ratios: (subtract R1 from R2)	$ -4.85	
	Adjust income transfer amount if difference is not zero. (Zero equals income equivalence.)		
7.	Yearly net income-both: (total line 1)	$ 51,624	
8.	Poverty level income-both: (total line 4)	$ 14,480	
9.	New household size poverty level as % of total poverty level: (line 4 ÷ line 8)	63 %	37 %
10.	Income for new household size: (line 9 x line 7)	$32,523.12	$19,100.80
11.	New income-to-needs ratio: (line 10 ÷ line 4 to 2 decimal places)	3.56	3.56
12.	Income transfer to equalize: (line 10 - line 1) (line 1 - line 10)	$25,371.12	-$25,371.12
13.	Equalized amount per month: (line 12 ÷ 12 months)	$ 2,114.26	

[a] Kathryn D. Rettig, Ph.D., Associate Professor, and The Honorable Mary Louise Klas, Judge of the Second District Court of Minnesota (1989).

[b] The poverty level income guidelines change each year. The 1989 guidelines by household size are: 1 = $5,980; 2 = $8,020; 3= $10,060; 4 = $12,100; 5 = $14,140; 6 = $16,180; 7 = $18,220; 8 = $20,260. Add $2,040 for each additional member over 8 (Federal Register, 54(31), 7097-7098).

The methodology of equalizing household incomes by size dramatically changes previously held assumptions for income allocation at divorce, and these changes need to be stated explicitly. Child support has been viewed as income for meeting the needs of the child(ren) and not for supporting the custodial parent. However, the present methodology with its value placed on equality forces the noncustodial parent to share more income. Personal income after divorce is treated more like community property as long as there are minor children present. Raising the children becomes the responsibility of the "community" (couple) and would be treated more like an economic partnership which is not dissolved at divorce.

This income equivalence methodology treats the human capital assets of a marriage in a similar way to the financial and physical capital assets of the marriage. The division of nonmarital real property at divorce can be used as an example. The "appreciation in the value of nonmarital real property remains nonmarital at the time of divorce, but the income from the property is considered marital" (McCullogh 1989, p. 131). Similarly, the value of the professional degree which is a personal human capital asset, would remain nonmarital, but the income valued at the time of divorce would be considered marital at least until the child(ren) reach majority. The value of the professional degree as an asset is "the present value of the anticipated future earnings" (Parkman 1987, p. 467) and the value of the income is the amount of net income the year of the divorce. The human capital assets of the marriage would then be treated with the same division rules and with as much respect as the financial and physical capital assets. The allocation of income at divorce by the income equivalence methodology would signify that people matter as much as money and that investments in children are an important responsibility for both parents.

The income equivalence methodology also changes the basic premises for awarding spousal maintenance. The family income is viewed from a systems perspective, with the assumption that past decisions about earning income and about labor force participation were joint rather than individual decisions. A family decision for one adult to remain home with the children, rather than to enter the labor force, carries with it an implied income protection contract. The implicit contract protects the spouse who is investing in the human capital assets of partner and children rather than in self. The awarding of spousal maintenance income after the children reach the age of majority can thus be justified as fulfilling the implicit income protection contract. The earning capacity of the person who stayed out of the labor market has been permanently reduced by the family decision to invest in others rather than in this adult. The rights to income equivalence between households have been earned by this past sacrifice, at least for a period of time following divorce.

The income equivalence calculations do provide a means for comparing levels of living for households of different incomes and sizes. Child support awards can be established so that the disparity in levels of living between custodial and noncustodial parents after divorce are reduced. This is a change consistent with the request made by the Minnesota Supreme Court Task Force on Gender Fairness in the Courts (1989, p. 22) and a change for the better in regard to the economic well-being of children from divorced families.

REFERENCES

Barten, Allen P. (1964). "Family Composition, Prices, and Expenditure Patterns." In P. E. Hart, G. Mills, & J. K. Whitaker (Eds.), Econometric Analysis for National Economic Planning (pp. 277-292). London: Butterworth.

Beninger, Jeanne W. and Elizabeth S. Smith (1988). Determining Child and Spousal Support. Deerfield, IL: Callaghan.

Christensen, Donna H. and Kathryn D. Rettig (in press). "Standards of Adequacy for Child Support Awards," Journal of Divorce.

__________. (1988). Income Adequacy of Child Support Awards and the Minnesota Guidelines, Testimony, Minnesota Supreme Court Task Force for Gender Fairness in the Courts. St. Paul, MN: Department of Family Social Science, University of Minnesota.

__________. (1987). Income Adequacy for Children in Relation to Child Support Awards, Unpublished Master's thesis. Minneapolis: University of Minnesota.

Deaton, Angus and John Muellbauer (1980). Economics and Consumer Behavior. New York: Cambridge University Press.

Department of Health and Human Services (1989). "Annual Update of the Poverty Income Guidelines," Federal Register. 54(No. 31, February 16): 7097-7098, Washington, DC.

Duncan, Greg J. (1984). Years of Poverty, Years of Plenty. Ann Arbor, MI: Survey Research Center, Institute for Social Research, University of Michigan.

Downey, Geraldine and Phyllis Moen (1984). Personal Efficacy and Income Dynamics: A Study of Women Heading Households. Paper presented for Theory Development and Research Methodology Workshop, National Council on Family Relations, San Francisco, CA.

Engel, Ernst (1895). "Die Lebenskosten Belgischer Arbeiter-Familien Fruher und Getzt," International Statistical Institute Bulletin. 9: 1-74.

Espenshade, Thomas J. (1984). Investing in Children: New Estimates of Parental Expenditures. Washington: The Urban Press.

Family Economics Review (1987). "Updated Estimates of the Cost of Raising a Child." 2: 36.

_________ (1987). "1986 Revision of Poverty Income Guidelines." 3: 23.

Hoffman, Saul and Greg Duncan (1988). "What are the Economic Consequences of Divorce?" Demography. 25(4): 641-645.

_________ and J. Holmes (1976). "Husbands, Wives, and Divorce." In Greg J. Duncan & James N. Morgan (Eds.), Five thousand American families: patterns of economic progress (Vol. 4, pp. 24-63). Ann Arbor, MI: Survey Research Center, Institute for Social Research, University of Michigan.

Lazear, Edward P. and Robert T. Michael (1980). "Family Size, and the Distribution of Real Per Capita Income," American Economic Review. 70(1): 97-107.

_________ (1988). Allocation of Income Within the Household. Chicago: The University of Chicago Press.

McCullough, D. Patrick (1989). "Marital and Non Marital Assets: The Law In Minnesota," Minnesota Family Law Journal. 4(9, July-August): 129-137.

Minnesota Supreme Court (1989). Report of the Task Force on Gender Fairness in the Courts. St. Paul, MN.

Morgan, James and Greg Duncan (1982). Making Your Choices Count: Economic principals for everyday decisions. Ann Arbor: University of Michigan, Institute for Social Research.

Morgan, Leslie A. (1989). "Economic Well-Being Following Marital Termination: A Comparison of Widowed and Divorced Women," Journal of Family Issues. 10(1): 86-101.

Muellbauer, John (1980). "The Estimation of the Prais-Houthakker Model of Equivalence Scales," Econometrica. 48(1): 153-176.

_________ (1977). "Testing the Barten Model of Household Composition Effects and the Cost of Children," Economic Journal. 87: 460-487.

Orshansky, Molly (1969). "How Poverty is Measured," Monthly Labor Review. (February): 37-41.

Parkman, Allen M. (1987). "The Recognition of Human Capital as Property in Divorce Settlements," Arkansas Law Review. 40: 439-467.

Pollak, Robert A. and Terrence J. Wales (1979). "Welfare Comparisons and Equivalence Scales," American Economic Review. 69(March): 216-221.

Prais, S. J. and H. S. Houthakker (1971). The analysis of family budgets. Cambridge: Cambridge University Press.

Rettig, Kathryn D., Lois Yellowthunder, Donna H. Christensen and Carla M. Dahl (1989). Economic consequences of divorce for men, women and children in Minnesota: A preliminary report. St. Paul, MN: Department of Family Social Science, University of Minnesota.

_________. (1988). Family Income Equivalence and Income Adequacy at Divorce, Testimony, Minnesota Supreme Court Task Force for Gender Fairness in the Courts. St. Paul: Department of Family Social Science, University of Minnesota.

_________ and Donna H. Christensen (1988). "Income Adequacy at Divorce: A Research Summary," Minnesota Family Law Journal. 4: 54-57.

_________. (1987a). "What are the Reasonable Needs of a Child?" In Divorce Ups the Ante. Minneapolis, MN: Minnesota Institute of Legal Education.

_________. (1987b, September). "Factual Information about Expenditures on Children." Talk given to the Hennepin County Bar Association, Family Law Section.

Smith, Ken R. and Cathleen D. Zick (1986). "The Incidence of Poverty Among the Recently Widowed: Mediating Factors in the Life Course," Journal of Marriage and Family. 48(3): 619-630.

Williams, Robert G. (1985). Development of Guidelines for Establishing and Updating Child Support Orders. Interim Report. U.S. Department of Health and Human Services, Office of Child Support Enforcement.

Zick, Cathleen D. and Ken R. Smith (1988). "Recent Widowhood, Remarriage, and Changes in Economic Wellbeing," Journal of Marriage and the Family. 50(1): 223-244.

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THE CONSUMERS UNIONS OF THE WORLD: HOW GREAT IS THEIR INFLUENCE?

Rhoda H. Karpatkin, Consumers Union of U.S., Inc.[1]

There are several measures of the influence of Consumers Union. *Consumer Reports* has an estimated paid circulation of 4,725,000. Multiple readers for each issue, plus our many other publications, books, radio and TV programs, and extensive press coverage of our reports, bring our information to many millions more. We have helped educate consumers to be skeptical and to demand ethical business behavior; we have fostered high expectations about quality, performance and safety. We have influenced national and international policy-making.

HOW MANY CONSUMERS DO WE REACH?

Consumer Reports

Quantitatively, we can measure how many copies of *Consumer Reports* are stuffed into mailboxes and sold on the newsstands, and how much of our information is delivered to consumers in other ways. The second dimension of our influence, the position we occupy in the marketplace of ideas, policy, and the public consciousness is less tangible. But in both of these areas, our influence is substantial.

We have several measures that quantify the reach of the information that Consumers Union delivers. For our March issue, *Consumer Reports* had an estimated total paid circulation of 4,725,000. Of this amount, 4,600,000 copies were subscriptions and 125,000 copies were sold on newsstands.

Our biggest newsstand seller is the April car issue, which usually sells about 400,000 copies. So for the month of April, our paid circulation is expected to exceed 5,000,000. At our present level of circulation, *Consumer Reports* ranks approximately tenth in paid circulation among all magazines.

Which magazines have more subscribers? The top four magazines, in order of paid circulation, were *Modern Maturity* (published by the American Association of Retired Persons, *Reader's Digest*, *TV Guide*, *National Geographic*. These magazines are very large publishing enterprises, and are really in a class by themselves.

The next five largest magazines are predominantly targeted at women readers -- *Better Homes and Gardens*, *Family Circle*, *McCall's*, *Ladies Home Journal* and *Good Housekeeping*.

I believe we have a greater paid circulation than either *Time* or *Newsweek*, although circulation numbers are always changing. *Consumer Reports* has more paid subscribers than *National Enquirer*, *Redbook*, *Sports Illustrated*, *Playboy* or *Cosmopolitan*. Our circulation figures show how important quality information about the marketplace is to Americans.

There are roughly 92 million households in the United States. Using our March 1990 circulation figures, we estimate that *Consumer Reports* has a direct household penetration rate of 5.14%.

Commercial magazine publishers sometimes talk about the number of "eyeballs" they can "rent" to advertisers. *Consumer Reports* gets in front of a lot of eyeballs, but of course, we don't rent them out. According to our survey research division, each circulated copy of *Consumer Reports* is read by an average of 2.4 people. This means that the magazine has an additional pass through readership of approximately 6,615,000 readers, for a total of 11,340,000. (This is a very conservative estimate -- the magazine publishing industry generally uses a multiplier of 4.0 readers per copy.)

We haven't counted up library readership, which we know is extensive. (We would welcome a research project on this question). We have 30,000 library subscribers. We know, anecdotally, that *Consumer Reports* is extremely popular in libraries.

90% of the *Consumer Reports* subscription base is residential and 10% is non-residential. In addition to libraries, the non-residential portion includes businesses, organizations, doctor's offices, and the like.

With this level of circulation and readership, when we do marketing surveys of potential new subscribers, our survey research division has a hard time finding prospects who haven't received or read the magazine at one time or another.

Consumer Reports' large circulation takes on added significance because magazines are the major media source that the public relies on for consumer information. According to a survey commissioned by the Magazine Publishers Association in 1986, 51% of women, and 53% of men said that they primarily relied on magazines to help them become wiser consumers. 24% of women, and 22% of men, relied on newspapers, and about 20% of women and men relied on television. Without underestimating the significance of TV as an information source, we're convinced that print media remain prime sources for useful information.

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[1] Executive Director

OTHER INFORMATION OUTLETS

While Consumer Reports is our "flagship" publication and the most visible part of CU's work, we have extended our reach through other outlets. CU has a syndicated radio program that provides five 90-second reports a week in about 50 markets around the U.S. CU's syndicated TV News Feature service, which supplies local stations with 12 90-second reports each month, appears in local news broadcasts in 50 markets across the U.S. They contain 56% of the nation's households -- a potential audience of 140 million people. (Not all of these people are going to be viewers for that particular station, so this measure is somewhat imprecise.) The TV News Feature Service is broadcast in 4 of the top 5 television markets, and 15 of the top 20 markets. In addition, our Consumer Reports Television specials have been broadcast for over a decade on the Home Box Office cable channel, which has 17 million subscriber households.

CU's syndicated news column appears twice weekly in 450 papers across the country. That means that we supply 104 columns a year, and if we were to clip one copy from each of the papers that carries our column each week, we'd have a pile of over 40,000 articles.

Our advice and findings are also frequently mentioned in the nation's print media. We issue monthly press releases on the highlights of each Consumer Reports issue to a list of over 450 journalists. Excluding the syndicated newspaper column, we are mentioned in the nation's newspapers and magazines about 12,000 times a year. In 1988, Consumers Union's findings were covered twice on the front page of the New York Times, in connection with test findings on the Suzuki Samuri and the Norelco water purifier.

Finally, responding to the importance of new technologies, the product articles and other information in Consumer Reports are now available through electronic databases such as DIALOG, CompuServe and Prodigy. In a survey of members carried out by the Prodigy information service, which currently has over 65,000 subscribers, Consumer Reports was identified by name as providing the highest satisfaction and the most important content of any service on the database.

All these additional channels for disseminating information from Consumer Reports help strengthen the position of the magazine in the hands of people who don't or aren't likely to subscribe for reasons of income, education level or time constraints.

Consumers Union also publishes books, monthly newsletters and a magazine for children. The number of books sold by Consumer Reports Books in 1989 was about 925,000, including 200,000 copies of our December issue of Consumer Reports, our Annual Buying Guide. We have 72,000 paying subscribers for the Consumer Reports Travel Letter, which began publication in 1985, and 62,000 paying subscribers for Consumer Reports Health Letter, which began publication in 1990.

Penny Power, our magazine for children, has a home circulation of 130,000 to 150,000, and is used in 1,000 middle school and junior high classrooms, with a school circulation of 18-24,000. Consumer Reports is used in the classroom by about 1,500 high school teachers and has a school circulation of 30-36,000. To facilitate classroom use, we distribute special teaching guides for both magazines, which include learning objectives, potential discussion topics and suggested classroom activities.

The circulation and sales numbers give you some idea of how much information is going out. But today's consumer is barraged with information from many competing sources. It is a continuing challenge for organizations like CU that specialize in delivering information to break through the "clutter." How useful do our readers find CU's information, and how much weight do consumers attach to it?

OUR INFORMATION IS USEFUL AND CREDIBLE

One objective measure of usefulness is the renewal rate among subscribers. Consumer Reports enjoys a renewal rate of approximately 30% among new subscribers, and rates of up to 80% for repeat renewals. These are excellent by industry standards.

Another increase is survey data. We know that Consumer Reports' product ratings are widely used by consumers when they shop. For example, when shopping for appliances:

* 42.8% of consumers surveyed identified Consumer Reports' ratings as an important factor in buying a range, according to a 1989 survey by Better Homes & Gardens.

* 15% to 20% of all people who recently purchased an air conditioner used Consumer Reports as their main source for information, according to a 1989 manufacturing study.

I believe CU's influence can also be measured by tangible consumer support for our work, the extent to which consumers are willing to contribute financial support to CU's fund drive for a new research and testing center. We have raised about $15 million net in the effort, with an average donation of $22 from over 400,000 donors. (We have stringent limits on the amount we're willing to accept from donors, and we refuse all corporate donations.)

Related to influence is credibility. Polls indicate that Consumers Union enjoys an unusually high level of trust from our readers and the public at large. A 1982 poll by the Louis Harris organization for ARCO found that consumers trust Consumer Reports more than any other information source on consumer issues, including the Better Business Bureau and Ralph Nader.

Another poll, this one commissioned by Motor Trend magazine in 1985, found that Consumer Reports had more clout among new car buyers than any other information source. The next most influential sources were dealer literature, magazines that carry ads like Motor Trend, and TV advertising, in that order.

OUR INFORMATION IMPACTS ON SALES

All of the foregoing tells us that we have a significant impact on some product sales. We have many examples that demonstrate the direct impact on Consumer Reports ratings and product articles. For example:

* Sales of Toshiba's ultrasonic humidifier went up 15% in 1986 after being rated number one in Consumer Reports, according to a Toshiba product manager. (Totally Housewares, 11/26/86).

* After a men's suit made by DAKS, USA for J.C. Penney was named a Best Buy in Consumer Reports in August, 1988, sales increased 50%, according to the president of the company which made the suits. (Phoenix Gazette, 10/31/86)

In at least two recent cases, Consumer Reports' product ratings have inadvertantly boosted the fortunes of small, previously little-known entrepreneurs:

* Consumer Reports named Leading Edge's Model D computer a Best Buy two years in a row, which helped propel it to become "the IBM alternative of choice on the word-of-mouth circuit." In a little over a year, Leading Edge shipped 200,000 Model D's for estimated sales of $200 million. (New England Business, 12/1/86, p. 41)

* A favorable review in Consumer Reports contributed to dramatic expansion for Snugli Corp., which had developed a new infant carrier. After the Consumer Reports review, sales grew from $100,000 a year to $1,000,000 a year. Production volume went from 300 carriers a month to 8,000 a month. (Inc. Magazine, 3/87)

Some examples of sales impact fall into the "catastrophe of success" category:

* A review in the October 1984 issue of Consumer Reports naming Scotch the highest quality blank videotape caused "a total wave of demand that depleted 3M's inventory." The manufacturer responded by raising prices, which led to distributors to refuse to stock the tape. (Sales and Marketing Management, 9/1/86)

* Consumer Reports' ratings doubled sales of a tractor-type lawn mower made by the Toro Company, and helped sell out the company's snowthrower line before winter came in 1986, the company reported. (La Crosse, WI Tribune, 11/1/86)

* In 1982, a favorable Consumer Reports article about a mail-order color photo processing service caused the company to be swamped with orders and no longer able to provide the prompt service we'd praised them for. (Subscriber letter, CU file)

We also have examples of how negative ratings have depressed sales, and caused long-term changes in the marketplace. One of the most striking examples is changes in shipments of Washington State apples after the May, 1989 issue of Consumer Reports came out in April of last year. This issue contained our test findings on Alar pesticide residues in apple juice. The apple shipments had already dipped in March because of a 60 Minutes report on Alar, but the Consumer Reports article and the media coverage it generated caused sales to fall precipitously again by more than 100,000 cartons. The public outcry led Uniroyal, the manufacturer of Alar, to voluntarily remove the pesticide from the U.S. market.

The disclosure of safety-related information by Consumer Reports also had a dramatic impact on sales of the Suzuki Samurai, a light jeep-type vehicle. Prior to publication of our article in June, 1988, sales of the Samurai averaged 6,000 to 6,500 cars a month. After the vehicle was rated not acceptable by Consumer Reports and the attendant publicity, sales plunged to 2,199 a month. Sukuzi sold 71% fewer Samurai's in June than it had a year earlier.

The striking drop in sales led the New York Times to comment that:

"When a prominent consumer organization -- in this case, Consumer Reports magazine -- raises a national alarm about a popular product, people stop buying it immediately." (New York Times, 12/17/88)

In this case, we not only had strong impact on cutting sales, but we were instrumental in getting the federal government to announce that it would consider establishing rollover limits for all autos and extending safety standards for multi-purpose vehicles.

OUR INFORMATION HELPS IMPROVE PRODUCT SAFETY AND DESIGN

There are many other examples of how Consumers Union has helped to change the marketplace, leading to increased safety and improved product design.

* Microwave Ovens: In 1973, we tested microwave ovens for radiation leakage, and issued a "not recommended" warning for the entire class of products. Our report and petition to the FDA led to improved design for oven door interlocks and improved standards for radiation leakage, and today microwave ovens are much safer than when they were first introduced.

* Caffeine in Soft Drinks: A Consumer Reports article in October 1981 sparked a furious marketing war in the soft drink industry over the presence of caffeine in soft drinks. As a result, no-caffeine soft drinks are now widely available to consumers. (6/30/82, WSJ)

* Kerosene Heaters: In October, 1982, Consumer Reports published a scathing report on the safety of kerosene heaters, which devastated the entire industry. More than two million heaters remained on manufacturers' and dealers' shelves at the end of the season, according to the National Kerosene Heater Association. CU presented its findings to the Consumer Product Safety Commission, which launched an eight month investigation costing $800,000. The CPSC report echoed CU's concerns, and the industry trade association said it would voluntarily implement the recommended changes for the 1984-85 season.

* Motocross Bike: After Consumer Reports rated a children's bicycle "conditionally acceptable" in November 1982, the manufacturer added a front caliper brake as we had recommended.

* Water Purifiers: In our January 1990 issue, we downrated the Bionaire 850 carbon water filter because it clogged after 300 gallons of a 600 gallon test. The Manufacturer, Pall Corp., has modified the final filter in the purifier to improve performance.

CU also has impact on manufacturers that adopt or reflect our testing methods in their own laboratories to improve product design, such as companies that have adopted CU's dishwasher and bumper crash tests. And recently, a water testing laboratory wrote us that, in response to our criticism in Consumer Reports, it would make its reports easier to understand.

While we have a significant impact on manufacturers and marketers, our primary focus remains the effect we've had on the individual consumer, and therefore, collectively, on consumer consciousness and on the marketplace as a whole.

WE'VE FOSTERED CONSUMER SKEPTICISM AND DEMANDS FOR GOOD PRODUCTS AND ETHICAL BEHAVIOR

First, we measure our success in terms of providing consumers with the information they need to make wise buying decisions. CU's influence is not only in the dramatic announcements about particular product categories, or getting unsafe products out of stores and showrooms, but also in promoting the quiet, steady, month-by-month enpowerment of the consumer by giving unbiased, accurate and usable test information and other evaluations about particular products and services, and how to shop for them. We're giving this information to people. Consumer Reports has educated people to be skeptical about unproved product claims. The resulting aggregation of informed and assertive consumer behavior helps move our society toward a fair marketplace.

Second, we have fostered and established an individual and collective set of attitudes and expectations about the marketplace that permeates consumer and producer consciousness. We've created high expectations -- demands, if you will -- about the quality and performance of products and services and their sellers. This is expressed in several overlapping ways.

** The consumer rights articulated by President Kennedy to the Congress in 1962, and added to by IOCU more recently, really do capture what consumers expect: the right to safety, to information, to choose, to redress, and to a safe environment, for example. This is what many businesses now accept as the marketplace norm.

While Consumers Union can't claim the entire credit for this set of expectations,by any means, our publication has - in effect - been relentlessly pushing every month for 53 years for this kind of economic justice. We believe we've influenced how our readers think about their rights as consumers.

** These expectations have been expressed as a heightened sense of what constitutes ethical behavior, and a demand for that behavior. In its January 1990 issue, the trend-watchers at Business Week magazine made some interesting observations about the "hot trends for 1990." They pointed out that Consumer Reports was "in," while narcissism and leveraged buyouts were "out." "Speeches about ethics" were also "in."

For Consumers Union, this demand for ethics has been "in" for 53 years. What's more, it doesn't go "out" for reasons of trendiness or expediency. We've given consumers a fix on what they have a right to expect. We saw this very clearly when we criticized companies that made commercial use of our reports and ratings in violation of our non-commercialization policy. We called such use unethical. Many of the hundreds of subscribers who wrote critical letters to these companies said the same thing. And this policy has strong support from our subscribers. They've told us so in surveys and they monitor the marketplace for us to implement our policy.

I believe that one reason for CU's large following today -- and I can't substantiate it -- is the fact that we've spoken out for ethics in business behavior in an age where greed, cynicisn and white collar crime seem to be at an all time high.

** These expectations have been expressed as an insistence on safe products. Years ago, product safety was a fringe issue, the domain of Naderites. Today, it is mainstream.

An article in the March 12 issue of Newsweek points out that companies increasingly emphasize safety in their marketing campaigns for cars and other products. "After years of resistance, Madison Avenue now sees (safety) as a way to court baby boomers," the article said, pointing out the greater sensitivity of the current generation to safety and environmental issues. The article indirectly drew a connection between this heightened sensitivity and Consumers Union, with a photo of a CU lab technician testing bicycle helmets, and a quote from our Technical Director, David Pittle.

** American consumers believe that business won't protect their interests in the marketplace, and that Government laws and regulations are needed. This has been advocated by CU since the 1930's and with vigor in the 1980's, when regulation was clearly not trendy.

** We've associated consumer protection with environmental protection. Consumer Reports has always reflected -- although it hasn't been a leader -- constant concern for environmental issues. In the last year, we've received many letters from our readers asking for information about how they can consume in an environmentally sound way and we're doing that. In response to increasing interest in environmental issues by consumers, in the last few years manufacturers have introduced a number of "green" or environmentally friendly" products. While some of the advertising claims for these products were questionable, and eight states and the Federal Trade Commission are conducting investigations on whether the products are really environmentally beneficial, it is very significant that the marketplace is responding to this form of consumer pressure.

OUR ADVOCACY OFFICES INFLUENCE GOVERNMENT

Until now, I've discussed our impact on consumers and the marketplace. Another important area where Consumers Union has a strong impact is the work carried out by our three advocacy offices in California, Texas and Washington, D.C. We influence the legislative and executive branches of government. We have spoken out on a huge number of legislative and policy issues in the places where important decisions affecting consumers are made. These include a myriad of safety, financial, environmental, health and other issues.

I'd like to take as an example, a few of the major issues facing poor consumers, something of great concern to CU. CU has become a key lobbyist and an important source for information on health care issues facing uninsured and elderly Americans. In the last year, we have had a very important impact in the area of housing and community reinvestment. Along with other national organizations, we successfully lobbied for a provision in the savings and loan bailout bill that created a national pool of $78 million for below-market rate mortgages for low- and moderate-income consumers. (The $78 million is just for the first year, and will be advanced to banks all over the U.S.) Our West Coast Regional Office recently helped negotiate a community reinvestment agreement with the Bank of America that will provide $50 million in long-term financing for low-income housing.

OUR SUPPORT HELPS STRENGTHEN THE INTERNATIONAL CONSUMERS MOVEMENT

Internationally, CU provides considerable support for the work of the International Organization of Consumers Unions (IOCU). As does our British counterpart, Consumers Association. With our membership dues and our human resources, we help make this organization an effective global lobbyist and enable it to provide meaningful support for new and young consumer organizations elsewhere in the world.

At some point in the last 53 years, Consumer Reports became a household word. I don't know when, but I know it happened. What that means to me is not only that people recognized a magazine about products and services. It means that a group of concepts took hold in the consciousness of consumers: That consumers should seek and use information, that quality, reliability, safety and redress are important in the marketplace, that consumers have rights and that sellers should behave ethically.

That, in the final analysis, is the real influence of Consumers Union.

SUCCESSFUL PARTNERSHIPS IN CONSUMER EDUCATION

Irene K. Williamson, National Coalition for
Consumer Education

The National Coalition for Consumer Education (NCCE) builds upon partnerships to increase its reach and effectiveness. Each year, new partnerships create new opportunities to increase emphasis on consumer education. 1989 was an outstanding year for the number of partnerships nurtured through NCCE.

NATIONAL PARTNERSHIPS LEAD TO PROGRESS

Networking is key to the success of the National Coalition for Consumer Education. At the national, state and local levels, effective partnerships allow the Coalition to maximize the use of the dollars provided through contributions from corporations, foundations and individuals. Rosella Bannister, NCCE Treasurer, talked of the organization's accomplishments resulting directly from successful partnerships.

Through partnerships with Avon Products, Inc., NCCE held its first conference for State Coordinators in five years. At the conference, Carole Glade, State Coordinator from New Jersey talked about how she was able to build a statewide Coalition within a period of 3 months. Her example, which we will present shortly, resulted in the formation of a statewide network in South Carolina, and the start of one in North Carolina.

In partnership with General Motors, Allstate Insurance, AT&T, Southern California Gas Co., Household Financial Services and the Federal Trade Commission, NCCE is undertaking a much needed survey on the Status of Consumer Education, Grades K-12. And, in 1990, again in partnership with Avon, a major conference on "The Literate Consumer."

BUILDING A STATE-WIDE COALITION

It takes networking and contacts to build a state-wide coalition. But it's worth it. Says Carole Glade, New Jersey State Coordinator and national board member, "By expanding your resources and network, consumer education can become a dynamic force in your community." The New Jersey Coalition was established in April 1989, just one year ago. Already it has proved to be a successful demonstragtion of how leaders from government, busines, education, consumer and community groups, the media and religious organizations can work together to stimulate and enhance consumer education across the state. Within one year, the New Jersey Coalition was able to accomplish the following:

- Completed a state-wide survey of consumer needs by reviewing and compiling existing statistics about consumer expenditures, which served to identify priority consumer education issues.

- Planned a state-wide opinion leaders dialogue to identify consumer education strategies pertaining to auto insurance.

- Initiated a community organization database for health related information.

- Appointed a committee to review consumer education needs on housing: financing and affordability.

By working together, the Coalition has focused attention on consumer education, making it an issue of importance in the state.

LOCAL NETWORKING WORKS

According to Kathy Rau, NCCE Board Member from Long Island, "The geography and demographics of our area create a real challenge for the delivery of consumer education resources." Long Island has a land mass of 1200 square miles containing 896,945 households and a population of over 2,7 million people-- greater than that of 22 states.

In 1984 we formed the Consumer Education Coalition of Long Island (CECLI) with the goal of "promoting the educational resources and consumer education available to the general public. CECLI has over 40 members, all from local agencies and not for profit groups. Through training, sharing of information and coordination and co-sponsoring of programs, the group is able to share its wealth of knowledge.

CECLI adopted a Consumer Education Month (instead of a week) to compensate for the different dates celebrated by the state and federal governments, and in 1990, put together a packet of educational resources for the 80 libraries and their 40 outreach centers which contained information provided by the 40 CECLI members. Most successful over the years has been a Speaker List which lists speakers available from 23 agencies on a broad range of consumer topics.

THE RELATIONSHIP BETWEEN FOOD GROUPS AND NUTRIENTS USING CANONICAL CORRELATION: HOUSEHOLDS IN PUERTO RICO

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The relationship between the quantity of food groups and the nutrient availability of the foods used by households in Puerto Rico was analyzed. The study used canonical correlation and canonical redundancy analyses to examine the strength of the relationship. Results show a close relationship between the two sets of variables. Findings suggest that, although households may make purchasing decisions based on food groups, modeling general food consumption behavior on the basis of nutrient availability should have no appreciable consequences on the outcome.

Proper food selection is essential for good health and well-being. In addition, food expenditures account for a sizeable part of household budgets. Thus, modeling food consumption or dietary behavior is an important responsibility of consumer economists.

This study examines the degree of association between food group consumption and nutrient availability by households. The data come from USDA's Puerto Rico Nutrition Study 1984, the most recently available household food consumption survey. The statistical method employed is that of canonical correlation and redundancy analyses. This technique has not been used extensively in economic demand analysis. Rather, simultaneous equation systems, which incorporate theoretical structures, are commonly used. In contrast to simultaneous equation systems which relate a set of dependent variables to a set of independent variables, canonical correlation analysis can relate two sets of dependent variables, such as foods and nutrients.

Traditionally, researchers have followed either of two paths in modeling food consumption or dietary levels. The first approach is to model dietary levels directly by relating nutrient levels to socioeconomic characteristics, income, and (implicit) prices (Basiotis et al. 1983; Eastwood et al. 1986; Morgan 1986). In the second approach, dietary levels are modeled indirectly by relating food or food group intakes to sociodemographic characteristics, income, and prices (Davis 1982; Morgan et al. 1985; Tufts et al. 1987). Selection of the modeling approach has rested with the researcher's scientific and philosophical background, specific purpose of the analysis, theoretical framework used, and data availability. Choice of modeling approach can materially influence the outcome of such research. Furthermore, different specifications may contribute to varying results (Morgan 1986).

Modeling nutrient consumption directly is appealing for several reasons. The method provides an opportunity to make direct diet status assessment and interpersonal diet comparisons. Expressing nutrient consumption as a percentage of the Recommended Dietary Allowances (RDA) further facilitates assessment and interpersonal comparisons by removing different units of measurement. This modeling approach, however, rests on the rather unrealistic assumptions that consumers are well aware of the nutrient content of all foods facing them in the market place and that it is mostly the nutrient content of the foods (as characteristics) that guides the food consumption decision. High correlations among nutrients consumed by households, or individuals, can make statistical estimation problematic because of severe multicollinearity. Also, this problem may limit the interpretation and usefulness of the results.

The second approach appears to be more realistic, especially if one assumes that consumers have decided that, for example, citrus fruits are high in vitamin C and, hence, they explicitly include citrus fruits in their diets, not vitamin C (as a characteristic). Advantages of the food group consumption approach include better availability of data; more relevance to the food industry, including agriculture; and easier assessment of diet quality, when diet quality is measured by consumption of specific foods. Disadvantages include the lack of standardization in definition of food groups, which often results in incomparability among studies; differences in units of measurement, which hinder aggregation; difficulty in assessment of nutrient status; and introduction of statistical estimation problems when a large portion of the sample reports "0" (zero) intake of a given food group during the survey period (Tobin 1958).

Obviously, it would be desirable that conclusions reached by employing either modeling approach be identical in substance. Furthermore, it would be useful to be able to derive implications for both food group and nutrient consumption.

DATA AND VARIABLES

The source of data used in this study was the Puerto Rico Nutrition Survey 1984. This survey was conducted from August through December 1984 by National Analysts, a Division of Booz, Allen, & Hamilton, under contract with the U.S. Department of Agriculture (USDA).

The Puerto Rico Nutrition Study 1984 provided detailed information on the food used by 2,424 households from which food consumption, money value of food, quantity of food, and nutritional levels of the household food supply may be appraised. Household characteristics included income, age of household members, household composition, education and employment of the heads, participation in food programs, and other factors that might affect food consumption. A summary description of these characteristics is given in Table 1. Only 2,180 are presented on this table because the remaining 244 (10 percent) had missing values--primarily income.

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Information on food used by surveyed households was obtained in an interview with the person identified as most responsible for food planning and preparation. Trained Puerto Rican interviewers used an aided-recall questionnaire schedule and recorded the kind (such as ground beef and skim milk), the form (such as fresh, canned or frozen), the quantity, and cost, if purchased, of each food and beverage used in the household during the 7 days prior to the interview. Respondents also reported the number of meals eaten from home food supplies during the week by household members and others. Households were contacted at least 7 days before the interview and asked to keep informal notes, such as shopping lists, menus, and grocery receipts to assist them in recalling the food used during the 7-day period. The questionnaire was printed in both Spanish and English to accommodate the respondent's preference.

Household food consumption reported in this survey was measured at the level at which food comes into the kitchen ("household"). It was food that disappeared from household supplies during the survey week, whether eaten, discarded, or leftovers fed to animals. Thus, the data should be interpreted as consumption in the economic, rather than the physiological, context.

Measurement of Food Quantity

The foods reported in this study were grouped by nutritional content or by main ingredient content. For example, the milk group consists of fresh fluid milk, processed milk products (such as cheese), cream and cream substitutes, frozen desserts containing milk, mixtures with milk as the main ingredient (such as cream of mushroom soup and cheesecake). The food quantity measure, expressed in pounds, was the weight of food used by household during the survey week. The food groups used for this study were the following:

(1) milk, milk products
(2) meat, poultry, fish
(3) other high-protein food
(4) vegetables
(5) fruits
(6) grain, grain products
(7) fats and oils
(8) miscellaneous

Table 1.--Selected Characteristics of Households in Puerto Rico 1984

Household Characteristic	Unit of Measure	All Households	Urbanization: Central City	Urbanization: Suburban	Urbanization: Nonmetropolitan
Total households	Number	2,180	586	335	1,256
Household size, 21-meal-at-home-equiv. person	Number	3.38	3.05	3.29	3.56
Money value of food at home per household in a week	Dollars	77.72	73.42	80.96	78.86
Expense for food away from home per household in a week	Dollars	12.47	15.06	15.24	10.53
Money income before taxes, previous year:					
Under $5,000	Percent	42	33	28	50
$5,000-$9,999	Percent	27	25	29	28
$10,000-$14,999	Percent	13	16	15	10
$15,000-$19,999	Percent	8	11	11	6
$20,000 and over	Percent	10	14	18	6
Mean income	Dollars	8,884	11,277	11,680	7,027
Tenure:					
Owned	Percent	78	63	79	85
Rented for cash	Percent	18	32	17	11
Occupied without rent	Percent	4	5	4	4
Status in Nutrition Assistance Program:					
Participating	Percent	37	26	24	46
Not participating	Percent	63	74	76	54
Mean NAP income, month	Dollars	58.27	39.85	36.91	72.79

The last group was not used in this study, since it comprised many varied food items of different weights with varying nutritional value when measured in per pound-basis (such as powdered beverage mixes and ready-to-drink beverages). The quantities of food used were converted to nutritive values of food, and the values of each nutrient in all items used during the seven days were summed.

Measurement of Nutrient Availability

The survey data provided nutritive values for food energy and 14 nutrients (protein, calcium, iron, magnesium, phosphorus, vitamin A, thiamin, riboflavin, vitamin B_6, vitamin B_{12}, vitamin C; also, fat, carbohydrate, and preformed niacin). The basis for the nutritive values was the "Composition of Foods...Raw, Processed, Prepared," (Watt and Merrill 1963) and other supplements published by the Nutrient Data Research Branch of the Human Nutrition Information Service (HNIS), USDA. When a nutritive value was not available for a reported food, HNIS staff members imputed a value from a similar food. Also, nutritive value of some foods specific to Puerto Rico were obtained through a contract with Applied Social Research Inc. in Puerto Rico.

Recommended Dietary Allowances (RDA) are established for the first 11 of the 15 diet components listed above. Since the number of nutrients was large, it was essential to determine which nutrients are more critical than others in the household decision-making process.

Table 2.--Percentage of Households Meeting the Recommended Dietary Allowances (RDA), Puerto Rico 1984 and United States 1977

Nutrient	Portion (%) of Sample Meeting RDA	
	Puerto Rico[a]	United States[b]
Food Energy	86	78
Protein	98	99
Calcium	76	70
Iron	88	84
Magnesium	84	78
Phosphorus	96	98
Vitamin A	64	83
Thiamin	91	89
Riboflavin	90	96
Vitamin B_6	76	68
Vitamin B_{12}	79	91
Vitamin C	94	95
7 key nutrients[c]	53	57
11 key nutrients[d]	49	53

[a] Sample size for total households is 2,424 in Puerto Rico Nutrition Study 1984.

[b] Sample size for total household is 3,473 in Nationwide Food Consumption Survey 1977-78, Spring.

[c] 7 key nutrients are protein, calcium, iron, vitamin A, thiamin, riboflavin, and vitamin C.

[d] 11 key nutrients are protein, calcium, iron, magnesium, phosphorus, vitamin A, thiamin, riboflavin, vitamin B_6, vitamin B_{12}, and vitamin C.

Table 2 shows the percentages of households meeting the RDA for food energy and nutrients. These percentages are compared with those from a similar survey conducted in the spring of 1977 for the 48 conterminous States (USDA 1985). Fewer households in Puerto Rico (less than 87 percent) met the RDA for food energy, calcium, magnesium, vitamin A, vitamin B_6, and vitamin B_{12} than for other nutrients. Because the two B vitamins are frequently found in similar foods, or correlated, vitamin B_{12} was dropped from this study.

The "problem" nutrients that are identified here--calcium, magnesium, vitamin A, vitamin B_6--are consistent with those found in other studies (Pao and Mickle 1981; Hama and Chern 1988). Various food products contribute to these nutrients. Calcium is found abundantly in milk and milk products. Certain green leafy vegetables (such as mustard greens, turnip greens, kale, and collards) are also important sources of calcium when eaten frequently. Vegetables account for a major share of the vitamin A. The meat, poultry, and fish group furnishes vitamin A. Grain products, vegetables, and milk and milk products supply nearly equal shares of magnesium in household diets. Dry beans and peas, soybeans, and nuts are also considered good sources of magnesium. The principal source of vitamin B_6 is the meat, poultry, and fish group.

PROCEDURES

Predicting the values of one or more variables from other variables is an important concern in economics and other sciences. Techniques for analyzing such relationships include simple correlation analysis, multiple regression analysis, systems of multiple regression equations, and canonical correlation analysis. The first two examine the relationship of one variable with one or more other variables. Systems of regression equations and canonical correlation analysis examine relationships between two sets of variables. Proper use of systems of regression equations requires the guidance of well-developed theoretical relationships. Use of canonical correlation analysis does not. Thus, canonical correlation is the technique of choice when explaining relationships between two sets of variables without the benefit of a rigorous theoretical framework.

The theory of canonical variables and canonical correlation allows us to summarize the interrelationship between two sets of variables. More specifically, the canonical correlation technique yields a linear combination to each of two sets of variables such that the simple correlation between the two linear combinations is maximized. These composites, or canonical variables, may be interpreted as indices that represent their respective sets of variables. The maximum number of canonical variables constructed is equal to the smaller number of variables in the two original sets. These pairs of canonical variables are orthogonal, or uncorrelated, to all other canonical variables.

Hotelling (1935, 1936) originally developed the concept of canonical correlation. He used this analytic procedure to study the relationship between a set of mental test variables and a set of physical measurement variables. The technique permitted him to determine and characterize the number and nature of the independent relations of the mind and the body by extracting from a multiplicity of correlations in the system (Kshirsagar 1972). Canonical correlation, however, is not unique to psychological or educational research. It is equally applicable to anthropometry, botany, economics, and other disciplines. Tinter (1946), Waugh (1942), and Bartlett (1948) provided early applications of the technique to economics. For these different fields of research, canonical analysis is used as a tool for reducing and understanding a whole interacting complex system. Canonical variables are used to help deepen the understanding of the original variables and may even suggest new measures.

An extensive theoretical derivation of the canonical correlation model is beyond the scope of this study, but it may be found elsewhere (Anderson 1971; Johnston 1972; Kshirsagar 1972; Mardia et al. 1979). An intuitive approach to explaining the model is to think in a stepwise fashion. First, the technique derives a linear combination of each set of variables so that the covariance between the components is maximized. That is, if Z_1 and Z_2 are two sets of variables of interest, then find vectors of coefficients or weights c and d so that if

$$x = c_1' Z_1 \quad \text{and} \quad y = d_1' Z_2$$

the correlation between x and y is maximized. This correlation is the first canonical correlation and x and y are called the first canonical variables. Then we can derive the second canonical variables, that is, linear combinations of Z_1 and Z_2 (uncorrelated to the first x and y), that have the second largest correlation. This is the second canonical correlation. The procedure is repeated for a number of iterations equal to the smaller number of variables in the two sets.

Canonical redundancy analysis, invented by Stewart and Love (1968), explains how well the original variables can be predicted from the canonical variables. A rigorous derivation may be obtained from Cooley and Lohnes (1971) and van den Wollenby (1977). Redundancy analysis is useful since it expresses the amount of actual overlap between the two sets of variables that are packaged in the first canonical relationship. That is, redundancy analysis shows, through the first canonical correlation, what proportion of the variance in vector variable Z_1 is found to be redundant to the variance in vector variable Z_2 (Cooley and Lohnes 1971).

Given the consumption of a specific food by the household, nutrient availability is derived by multiplying the quantity of the food item by the nutritive value per pound of that food. It is expected that the canonical variables, indexing consumption of food group quantities and nutrient availability, will be correlated. Since nutrients are derived from individual foods, however, the degree of correlation depends on the level of aggregation used. Also, the predictability of individual food groups or nutrients, given the consumption of nutrients or food groups, respectively, is not known.

For this study, seven food groups and five nutrients were calculated for 2,424 households in Puerto Rico. Canonical correlation analysis was used to derive summary indices of the seven food groups and five nutrients and to determine the degree of association between the indices. Although alternative types of food group and nutrient measures were tested, the results presented here are for the aggregate amounts of food (by food group) used by the household from the household food supply during the 7-day survey period and for the aggregate nutritive values (by nutrient groups) from these foods. Details of alternative measures, such as nutrients per household size in 21-meal-at-home equivalent and in nutrition units, are described by Smallwood and Blaylock (1984). The computer software used to perform the analysis was the CANCORR procedure of the Statistical Analysis System (SAS 1985).

RESULTS

Results of the canonical correlation and redundancy analyses are reported in Tables 3.A through 3.C and Tables 4.A and 4.B. Because the variables were not measured in the same units, standardized variables were used for the analysis. Tables 3.A through 3.C summarize the findings from the first, second, and third canonical correlations. The fourth and fifth canonical correlations are not shown because they were judged to be not informative enough.

The coefficients of the first canonical food group variable are in the first column of Table 3.A. These coefficients may be thought of as weights, indicating the relative contribution of the respective food group in the total food group variation. Thus, milk and milk products as well as grain and grain products are the most heavily weighted food groups in the food group index. As expected, all seven weights are positive, indicating a direct relationship between consumption of any of the food groups and the first food group canonical variable (index).

Similarly, the coefficients (weights) for the first canonical variable or index of the five nutrients are shown in the first column of Table 3.B. Food energy, a measure of the quantity of food, and calcium have the largest weights. These demonstrate the contribution of food energy and calcium in the overall household nutrient consumption pattern. As with food groups, all coefficients of the first nutrient canonical variable are positive. That is, increased availability of any of the five nutrients, on the average, would increase the value of the nutrient index.

Some coefficients from the second and third canonical variables for food groups are difficult to explain--milk products (for both canonical variables), and grain products, fats and oil (for third canonical variable) took on negative values. This is in contrast to the strong positive influence found in the first canonical variable. Similarly for nutrients, calcium and vitamin B_6 (for the second canonical variable), and food energy and

Table 3.A--Canonical Correlation Analysis: Standardized Canonical Coefficients for Food Groups

Food Group	Quantity1	Quantity2	Quantity3
Milk, milk products	0.3596	-1.0650	-0.3112
Meat, poultry, fish	0.1988	0.1823	0.3198
High-protein foods	0.0823	0.0222	0.1264
Vegetables	0.1790	0.1103	0.7497
Fruits	0.0988	0.0487	0.3012
Grain, grain products	0.3485	0.4220	-0.3933
Fats and oils	0.1485	0.3608	-0.6769

Table 3.B--Canonical Correlation Analysis: Standardized Canonical Coefficients for Nutrients

Nutrient	Nutrient1	Nutrient2	Nutrient3
Food energy	0.5261	1.3730	-2.2311
Calcium	0.3018	-1.6761	-0.3799
Vitamin B_6	0.1753	-0.0501	1.9446
Magnesium	0.0495	0.2190	0.6915
Vitamin A	0.0065	0.0218	0.0817

Table 3.C--Canonical Canonical Analysis: Canonical Correlations between Food Groups and Nutrients

	First	Second	Third
Correlation	0.9897	0.9460	0.8197

calcium (for the third canonical variable) took on negative values. This indicates that the dimensions measured by the second and by the third canonical variables are different from the first canonical variable.

The estimated canonical correlations between the first food group and nutrient indices are shown in Table 3.C. Given that the algorithm used to construct canonical variables maximizes their correlation, the estimated correlation of 0.99 is not particularly surprising. Note, however, that high correlation does not necessarily imply a high proportion of variance explained by each canonical variable (Lambert et al. 1988).

The canonical redundancy analysis results are displayed in Table 4.A and 4.B. The last rows of these tables show that the first pair of canonical variables is a relatively good predictor of the opposite set of variables. In some respects, the proportion of explained total variance or predictability of nutrient availability from the food group index is quite good at 75 percent. The first canonical variable of the food groups provides an excellent predictor of the nutrients studied, explaining between 93 to 80 percent of the variation, variation, as indicated by the squared multiple correlations. The exception was for vitamin A, with a poorer predictor at 28 percent.

In contrast, the predictability of food quantities from the first nutrient availability index prove to be weaker at 44 percent. The squared multiple correlations indicate that the first canonical variable of the nutrients has some predictive power for each of the seven food groups, ranging from a "good" predictor at 59 percent of the variance for grain products to a poorer predictor at 25 percent for fruits.

The second and third columns of Tables 4.A and 4.B provide cumulative proportions of the variance of each original variable explained by the first two

Table 4.A--Canonical Redundancy Analysis: Squared Multiple Correlations between Food Group Quantity and Canonical Variables of Nutrient Availability

Food Group	Nutrient1	Nutrient2	Nutrient3
Milk, milk products	0.5580	0.9281	0.9373
Meat, poultry, fish	0.5084	0.5348	0.5804
High-protein foods	0.2835	0.2905	0.2963
Vegetables	0.4746	0.4958	0.6665
Fruits	0.2535	0.2543	0.3701
Grain, grain products	0.5935	0.6839	0.7296
Fats and oils	0.3999	0.5201	0.6214
Standardized Variance of Food Group Quantity in Cumulative Proportion:			
Own Variables	0.4480	0.5495	0.6546
Opposite Variables	0.4388	0.5296	0.6002

Table 4.B--Canonical Redundancy Analysis: Squared Multiple Correlations between Nutrient Availability and Canonical Variables of Food Group Quantity

Nutrient	Quantity1	Quantity2	Quantity3
Food energy	0.9322	0.9675	0.9733
Calcium	0.7970	0.9599	0.9622
Vitamin B_6	0.8576	0.8696	0.9386
Magnesium	0.8814	0.8874	0.9080
Vitamin A	0.2791	0.2791	0.3432
Standardized Variance of Nutrient Availability in Cumulative Proportion:			
Own Variables	0.7652	0.8135	0.8617
Opposite Variables	0.7495	0.7927	0.8251

or three opposite canonical variables. The three food group canonical variables, together, are excellent predictors of individual nutrients--explaining more than 90 percent of the variation for all nutrients except vitamin A. With the exception of milk and milk products (94 percent), the three nutrient canonical variables explained between 73 to 30 percent of individual food group variability.

SUMMARY AND CONCLUSIONS

Relationships between sets of food groups and sets of nutrients were explored for households in Puerto Rico. The statistical technique utilized was canonical correlation and canonical redundancy analyses. The results indicate that sets of aggregate food groups consumed and sets of aggregate nutrient availability were highly related. The main implication is that, although households appear to be making food purchasing decisions based on food groups, modeling food consumption behavior on the basis of nutrient availability should not appreciably change the outcome.

The results, however, display enough unexplained variations between food group and nutrient availability to warrant tailoring further in-depth analysis of these measures separately. If the focus of the research is nutrients, then the analysis should be carried out with nutrients only; if the topic concerns food groups, then the study should measure food quantities only.

On the other hand, if the subject matter deals with generalizations on diets, then these results indicate that the methodological approach has no impact. That is, whether the generalization is made by analyzing nutrient availability or food quantities, the outcome would be quite similar. From a practical viewpoint, however, it may be preferable to approach the topic from food groups since it is easier for consumers to understand foods than nutrients. Furthermore, this point is corroborated by the redundancy analysis results, which indicate a stronger predictive value of nutrients from food group index than food groups from nutrient index. Several limitations of this paper should be cited. First, the study was based on a specific set of five nutrients. Other combinations of nutrients should be considered, depending on the sample to be analyzed. For example, iron may be included when studying women's diets.

Second, our study used survey information collected from households in Puerto Rico, a population with food use and an economy that differ from the 48 conterminous States. For this reason, analysis should be performed using recent food consumption data from the mainland United States.

Another area that requires attention is the use of data reported for foods from the household food supply. With a greater number of consumers eating away from home, it is suggested that analysis be done for food at home and away from home. A study comparing the relationship between food groups and nutrients for different sex-age categories and different socioeconomic factors would provide important information to nutrition educators and consumer economists.

REFERENCES

Anderson, T.W. (1971), An Introduction to Multivariate Statistical Analysis, 2nd edition, New York: John Wiley & Sons.

Bartlett, M.S. (1948), "A Note on the Statistical Estimation of Demand and Supply Relations from Time Series," Econometrica, 16:323.

Basiotis, P.P., M. Brown, S.R. Johnson, and K.J. Morgan (1983), "Nutrient Availability, Food Costs, and Food Stamps, "American Journal of Agricultural Economics, 65(4):685-693.

Cooley, William W. and Paul R. Lohnes (1971), Multivariate Data Analysis, New York: John Wiley & Sons.

Davis, Carlton G. (1982), "Linkages Between Socioeconomic Characteristics, Food Expenditure Patterns, and Nutritional Status of Low Income Households: A Critical," American Journal of Agricultural Economics, 64(5):1017-1025.

Eastwood, D.B., J.R. Brooker, and D.E. Terry (1986), "Household Nutrient Demand: Use of Charcteristics Theory and a Common Attributes Model," Southern Journal of Agricultural Economics, 18(2):235-247.

Hama, Mary Y. and Wen S. Chern (1988), "Food Expenditure and Nutrient Availability in Elderly Households," Journal of Consumer Affairs, 22(1): 3-19.

Hotelling, Harold S. (1935), "The Most Predictable Criterion," Journal of Educational Psychology, 26:139-142.

Hotelling, Harold S. (1936), "Relations between Two Sets of Variates," Biometrika, 28:321-377.

Johnston, J. (1972), Econometric Methods, 2nd edition, New York: McGraw-Hill.

Kshirsagar, Anant M. (1972), Multivariate Analysis, New York: Marcel Deker.

Lambert, Z.V., A.R. Wildt, R.M. Durand (1988), "Redundancy Analysis: An Alternative to Canonical Correlation and Multivariate Multiple Regression in Exploring Interset Associations," Psychological Bulletin, 104(2):282-289.

Mardia, K.V., J.T. Kent, and J.M. Bibby (1979), Multivariate Analysis, London: Academic Press.

Morgan, K.J., S.R. Johnson, Y.Y. Lee, and B. Goungetas (1985), "Use of 12 Groups in Foods in Households Differing in Size, Income and Receipt of Food Stamps," Journal of Consumer Studies and Home Economics, 9:113-131.

Morgan, Karen J. (1986), "Socioeconomic Factors Affecting Dietary Status: An Appraisal," American Journal of Agricultural Economics, 68(5): 1240-1252.

National Academy of Sciences (1974), Recommended Dietary Allowances, 8th edition, Washington, DC.

Pao, Eleanor M. and Sharon J. Mickle (1981), "Problem Nutrients in the United States," Food Technology, (September):58-69.

SAS Institute, Inc. (1985), SAS User's Guide: Statistics, Version 5, Cary, NC.

Smallwood, David and James Blaylock (1984), "Scaling Household Nutrient Data," Agricultural Economics Research, 36(1):12-22.

Stewart, Douglas K. and William A. Love (1968), "A General Canonical Correlation Index," Psychological Bulletin, 70:160-163.

Tintner, G. (1946), "Some Applications of Multivariate Analysis in Economic Data," Journal of American Statistical Association, 41:472.

Tobin, James (1958), "Estimation of Relationships for Limited Dependent Variables," Econometrica, 26:24-36.

Tufts, D., J. Gerner, and J. Haas (1987), "The Economics of Nutrition of U.S. Low-Income Households," Proceedings of the American Council on Consumer Interests 33rd Annual Conference, Denver, CO:181-186.

U.S. Department of Agriculture, Human Nutrition Information Service (1985), Dietary Level: Households in the United States, Spring 1977, NFCS Report No. H-11.

van den Wollenberg, Arnold L. (1977), "Redundancy Analysis--An Alternative to Canonical Correlation Analysis," Psychometrika, 42:207-219.

Watt, Bernice K. and Annabel L. Merrill (1963), Composition of Foods...Raw, Processed, Prepared, U.S. Department of Agriculture Handbook No. 8 (revised).

Waugh, Frederick V. (1942), "Regressions between Sets of Variables," Econometrica, 10:290.

ARE WE ESTIMATING A LIFE CYCLE MODEL OR AN ERROR CORRECTION MODEL?

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Using the recent developments in the econometric analysis of time series we find that a dynamic version of the life cycle hypothesis, which is observationally equivalent to the error correction model, is rejected for 11 OECD countries in our sample over the period 1951-1982. This is also supported by the pooled cross-section time-series data for the same countries. Hence, we favor the error correction model of consumption as the better approximation to the aggregate data generating process (decision making process) of consumers.

I. INTRODUCTION

Recent empirical evidence against the Life Cycle Hypothesis of consumption, generated by the analysis of patterns of saving during the retirement years, has induced remarkable interest in testing the implications of this hypothesis (see, for example, Kotlikoff, 1989, Hogarth, 1988 and their references). Nonetheless, Modigliani (1988, p.17) has argued that "a generalized life cycle model including both hump and inherited wealth will continue to exhibit all the basic macro properties of" his earlier model (see, for example, Modigliani, 1975). Hence, the validity of Modigliani's life cycle hypothesis model (denoted by LCH) as an appropriate approximation to the data generating process (decision making process) of consumers is at question. Indeed, many issues in the economics of consumer behavior and policy analysis rest upon the empirical adequacy of the life cycle model of consumption as the data generating process for consumers' expenditure.

The purpose of this paper is to test the life cycle model of consumption as it was expounded in Modigliani (1975) using cross-country data from OECD countries over the period 1951-1982. A novelty of this paper is the utilization of Davidson, Hendry, Srba and Yeo's (henceforth, DHSY, 1978) error correction model, as an alternative specification to the life cycle model. The error correction mechanism model was first introduced by Phillips (1954) for exploring stabilization policies in a closed economy. Later, this model was successfully applied to the UK wage data by Sargan (1964). DHSY's model is based on a "feedback theory" that allows consumers to behave as "backward looking" economic agents; i.e. basing their present consumption decisions on the past disequilibrium information (lagged savings). The error correction model (denoted by ECM) has been effectively applied to consumers' expenditure data from different periods and countries and has shown considerable degree of robustness (Hendry, 1983, Baltagi and Mokhtari, 1989, and Mokhtari, 1990). Resemblance of the ECM model and its estimated values to those of Modigliani (1975), Friedman (1957), Houthakker and Taylor (1970), Brown (1952) and Duesenberry (1949) are emphasized by DHSY and others. Gilbert (1986) and Mokhtari (1986) provide some of the relevant references.

In contrast to the ECM, the LCH model does not consider past savings, necessarily, as a mistakes or disequilibrium in consumers' consumption decisions. In fact, in the LCH savings are seen as a purposeful act by consumers to provide for the future. As an extreme (stochastic) implication of the life cycle hypothesis, Hall (1978) argues that, apart from a trend, consumption is a random walk process and that only innovations about the future influence consumers' decisions. Radical differences between the policy implications of error correction models and those of "forward looking" models are notable. In particular, if consumers are "forward looking" with respect to their consumption decisions government policies might be rendered ineffective.

Another novelty of this paper is the use of data conversion techniques developed in Kravis, Heston, and Summers (1982) that convert individual country data into an internationally comparable basis. Comparable data allow us to conduct our analysis on a country-by-country basis as well as in a pooled cross-country context. For our analysis, annual time-series data on real per capita private consumption expenditure and real per capita personal disposable income for eleven OECD countries over the period 1951-1982 are utilized.

Section II outlines the LCH and ECM models that are to be estimated and tested in this paper. Section III describes the application of Kravis et. al.'s technique in converting individual country data into an internationally comparable basis. Section IV presents the cross-country results for the life cycle - error correction models of consumption. Section V provides some concluding remarks.

II. MODEL

Life Cycle Hypothesis

There are many empirical studies on consumption and, as it is argued in DHSY's paper, most of these studies use a restricted version of a first order autoregressive distributed lag:

(1) $C_t = b_1 Y_t + b_2 Y_{t-1} + b_3 C_{t-1} + U_t$

Where C and Y are consumers' expenditure and disposable income, respectively; U is the (white noise) disturbances and bs are constant (parameters). In fact, a version of Ando and Modigliani's (1963) life cycle model is, observationally, nested in this specification. To see this, one may consider Modigliani's (1975) LCH that, in steady state, may be written as:

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[1] Assistant Professor. I am grateful to Alok Bahrgava, Helen Jensen, Leslie Whittington and two anonymous referees for valuable comments. Larry Ibanez provided excellent assistance for which I am grateful. I am solely responsible for all errors.

(2) $C_t = a_1Y_t + (a\text{-}r)A_t + U_t$

where A and r are private wealth and its rate of return, respectively; U is the reminder (disturbances) that is not explained by the life cycle hypothesis. If the LCH adequately accounts for all the systematic behavior in consumers' expenditure the reminder (U_t) should not contain any discernable structure; that is, U_t should follow a random behavior (e.g., white noise process). Given that in empirical implementation of the above equation, a_1, a and r are usually held constant, (2) can be written as:

(2)' $C_t = a_1Y_t + a_2A_t + U_t$

Where a_2=(a-r) is a constant. To test (2) as an adequate approximation to the decision making process of consumers, when accurate and sufficient observations on consumption expenditure, income and wealth are available, one would estimate the LCH model and check on its validity on the basis of **a priori** expectations about the coefficients and the residuals. A measure of such **a priori** expectations is that the estimated residuals should assume a random behavior, such as a white noise process that contains no systematic information. So, given adequate and reliable observations on the included variables, U_t might be tested against the properties of a white-noise process. However, data on assets, when available, are highly unreliable. Hence, "it may be preferable to rely on proxies or on methods that do not require the use of asset data" (Deaton and Muellbauer, 1980, p. 325). Given the paucity of asset data a transformation of (2)' that does not involve A_t has been the subject of estimation and inferences; e.g., see, Spiro (1962), Ball and Drake (1964) and Evans (1967) who estimate a differenced version of (2)', while, approximating the change in A_t by $(Y\text{-}C)_{t-1}$, when there are no capital gains. Differencing (2)', and substituting $(Y\text{-}C)_{t-1}$ for the change in A_t we obtain:

(3) $(1\text{-}L)C_t = a_1(1\text{-}L)Y_t + a_2(Y\text{-}C)_{t-1} + (1\text{-}L)U_t$

where L is the lag operator such that $LX_t = X_{t-1}$. Following Modigliani (1975), (Y-C) can be interpreted as the stationary change in the liquid assets. Note that, now, (3) possess a first order moving average error term rather than a simple white noise process. Nonetheless, given the above assumptions, (3) is consistent with Modigliani's original model (2). Observationally, with $b_1 = a_1$, $b_2 = (a\text{-}r)\text{-}a_1$, and $b_3 = 1\text{-}(a\text{-}r)$, (3) is a nested model in (1).

A crucial point is that the error term in (3), which is an unobservable variable, is a moving average process. Hence, structure of the residuals in (3) allows us to identify between the rival models at a finer stage of the model selection process.

Error Correction Mechanism

A simple error correction model of consumption, derived by Davidson et al. (1978) is based on the "feed-back" theory. This theory modifies short-run proportional changes of C with Y by utilizing the feed-back from past disequilibrium (Y-C). This ensures the proportionality of C and Y in a static (long-run) equilibrium. Accordingly, an ECM model is written as:

(4) $(1\text{-}L)C_t = d_1\,(1\text{-}L)Y_t + d_2\,(Y\text{-}C)_{t-1} + U_t$

where ds are constant (parameters) and U is a white noise process.

Similarly, rearranging (1), and imposing

$$b_1 + b_2 + b_3 = 1$$

one obtains DHSY's ECM model of consumption

(5) $(1\text{-}L)C_t = b_1\,(1\text{-}L)Y_t + (1\text{-}b_3)\,(Y\text{-}C)_{t-1} + U_t$

where, the error term preserves its original (white noise) properties.

A feed-back theory explanation of (5) states that consumers plan to smooth out their consumption expenditures by consuming b_1 out of the change in income, $(1\text{-}L)Y_t$, and $(1\text{-}b_3)$ out of the disequilibrium term (past savings), $(Y\text{-}C)_{t-1}$. This ensures proportionality of the consumption and income in the long-run. In the short-run, validity of the ECM model rests upon the significance of the error correction term; i.e., $(Y\text{-}C)_{t-1}$. In the long-run, where the short-run dynamic reaction between consumption and income has been worked out, the disequilibrium term should not be of any significance. This means that $(1\text{-}b_3)$ is expected to approach zero (or that savings are of no importance in the long run). Hence, in the absence of a significant disequilibrium term, equal rate of growth in income and consumption will lead to a long-run value for b_1 that should not be significantly different from one. Baltagi and Mokhtari (1989) provide pooled cross-section time-series estimates that support this proposition. However, in the short-run without full adjustment to the rate of growth in income ($b_1 < 1$), the disequilibrium term (Y-C), could change to accommodate the shocks, i.e. leading to a significant $(1\text{-}b_3)$.

The distinguishing factor between (3) and (5) is the existence of a moving average process in the LCH model and lack of it in the ECM representation. Hence, in section IV, the null hypothesis of a simple moving average will be tested. Additionally, the null hypothesis of a random walk process (existence of a unit root) in the residuals of (2) will be tested. Rejecting these null hypotheses are taken as the support for the alternative hypothesis of a white noise residuals.

III. DATA

For an international analysis, comparable data (in the same unit of currency) are of extreme importance. The lack of internationally comparable data could reduce the researcher's ability to conduct a thorough analysis of the relevant data. This is more notable when a comparison of 'level' is of importance or, when 'ratios' are being compared (when denominator and numerator are subject to different conversion factors). However, models cast in the rate of growth of variables or ratios (when denominator and numerator are subject to the same conversion factor) have the potential of circumventing the above problem. When these types of models include an intercept, or dummy variable, magnitudes become important, and the level of variables having internationally comparable units becomes vital. Moreover, we should note that comparable values are the basic input to the application of pooled estimation techniques. Hence, the importance of comparable data for our analysis is clear.

Following the monumental work of the International Comparison Project (ICP), by Kravis et al. (1975, 1978, 1982), we have used their results in converting consumption and income data to internationally comparable levels. Utilization of the ICP results has provided us with the opportunity to circumvent the usage of the exchange rate that is known to be notoriously inaccurate as a conversion factor.

A simple application of the ICP method for achieving internationally comparable time series would be to allow aggregates or sub-aggregates of national accounts derived by the ICP method to be extrapolated at the rate in which their available counter part grow over time.

As an example if X_{tm}, P_{tm}, PPP_{t_0m} and f_{t_0} are a per capita time series in current prices, price deflator, related purchasing power parity on time t_0 and international prices of x at time t_0, then the internationally comparable values of x_{tm} (i.e. real values of X) and P_{tm} could be computed as follows:

$$X^* = (x_{t_0m}/PPP_{t_0m}).f_{t_0}.((1-L)x_{tm}/x_{tm})$$

and

$$P^* = P_{tm} \,.\, PPP_{t_0m}$$

for $x_{tm} = X_{tm}/P_{tm}$, $P_{tm} = P_{tm}/P_{t_0m}$, $t=1,\ldots t_0,\ldots T$, $m=1,\ldots M$, where X^*_{tm} and P^*_{tm} are internationally comparable values of X_{tm} and P_{tm}, respectively, and t_0 is the benchmark year for which purchasing power parities (PPP) and international prices (f) are available. Notice that x_{t_0m}/PPP_{t_0m} might be considered as the so-called "notional quantity" with the qualification that this is "not strictly quantities but rather values of quantities at numeraire country [U.S.] prices" [Kravis, et al., 1982, pp.172].

IV. ARE WE ESTIMATING A LIFE CYCLE MODEL?

To realize that if we are estimating the LCH or the ECM representation of the data we must use the structure of their residuals as the criteria for the model selection. In this regard testing for the null hypothesis of a moving average and a random walk (unit root) process in the residuals will give a substantive indication as to which model is the appropriate approximation to the decision making process of consumers. Note that, finding a random walk process in the estimated residuals of a regression can, potentially, reveal misspecification that might be due to the exclusion of a nonstationary variable from the set of relevant regressors. On the other hand, rejecting the existence of a random walk process in (3) favors the alternative hypothesis of a stationary process that is consonant with the above models.

While Durbin-Watson statistic (DW) is known to be a test for detecting serial correlation, it is, also, a robust test against other alternatives such as a moving average process. Moreover, Sargan and Bhargava (1983) suggest this statistic for detecting random walk behavior (unit root) in economic variables and provide the relevant critical values. DW tests, reported in Table (1), reject the null of a simple moving average for all of the countries in our sample. DW for the pooled estimates supports these findings. While, various tests are proposed for detecting unit roots in the economic time series, Dickey and Fuller's (1981) t-test and Sargan and Bhargava's DW-test are the easiest to apply. Dicky and Fuller (1981) provide a t-statistic (DF) that tests for the null hypothesis that errors in a regression model follow a random walk process (i.e., possess a unit root). To test for a random walk process using DF-statistics, we check U_t for the existence of a unit root by running the following regression:

$$(1-L)U_t = d\, U_{t-1} + v_t$$

where v_t is assumed to follow a white noise process. A negative and significant d value implies that the null hypothesis of a random walk process can not be rejected. To test for the significance of d at the five percent level of significance, the critical value of 1.96 is used (see Fuller, 1976, p.373). Dicky and Fuller's test can be improved upon by augmentation to allow for higher order autoregressive processes, e.g. $(1-L)U_{t-1}$, (see, Granger and Newbold, 1986, p.263). Augmented Dick and Fuller's test is denoted by ADF and should be compared with a critical value of about 3. Table (1) presents the estimates of DF- and ADF-statistics for the above specification. Values of the DF- and ADF-statistics larger than critical values strongly reject the null of a random walk process in the estimated residuals. Indeed, we obtain no values less than 3.3 for the above t-tests.

Given that the Dickey-Fuller tests are sensitive to whether the null hypothesis being tested is a pure random walk process or a random walk process with a drift we have also reported Sargan and Bhargava's (1983) test (DW) for the unit root. Sargan and Bhargava show that the DW statistic is invariant to the null hypothesis of a pure random walk process or a random walk process with a drift and provide the relevant critical values for this (DW) test. Bhargava, Franzini and Narendranathan (1982) have suggested DW for testing unit roots in panel data. Comparison of country-by-country DW values with the critical value of .77, reported in Sargan and Bhargava for the five percent level of significance, support the above findings. These are, also, supported by the pooled cross-section time-series results that are reported in Table 1. Note that the relevant critical value for the pooled DW value is .25. Overall, our estimated model appear to be the error correction model of consumer behavior that is proposed in the DHSY (1978) paper.

Table 1. Life Cycle Model vs. Error Correction Model
Dependent Variable: Change in consumption expenditure ($(1-L)C_t$)

Country	$(1-L)Y_t$	$(Y-C)_{t-1}$	R2	DF	ADF	DW
U.S.A	.45 (14.30)	.02 (5.86)	.87	-3.75	-4.63	1.39
Japan	.41 (9.38)	.03 (4.17)	.68	-4.83	-4.53	1.69
Austria	.43 (6.31)	.01 (2.13)	.42	-6.39	-3.36	2.32
Belgium	.36 (9.04)	.03 (6.41)	.77	-6.84	-5.47	2.46
Denmark	.42 (8.49)	.009 (1.67)	.67	-5.41	-4.14	1.96
France	.32 (8.19)	.04 (9.60)	.76	-5.96	-4.15	2.20
W. Germany	.42 (10.90)	.02 (5.27)	.71	-5.20	-4.95	1.90
Ireland	.40 (4.89)	.01 (.88)	.40	-6.23	-4.11	2.03
Italy	.45 (10.51)	.02 (4.22)	.75	-4.50	-5.05	1.53
Netherlands	.42 (6.76)	.02 (2.85)	.60	-5.59	-3.86	2.01
U.K.	.52 (7.64)	.006 (1.06)	.64	-4.90	-4.40	1.64
			POOLED RESULTS			
OLS	.43 (28.6) [22.22]	.02 (11.25) [7.79]	.68	-16.63	-	1.83

(.) OLS t-values.
[.] Heteroscedasticity-Consistent t-values (see, White, 1980).

Further Results

Assuming that the estimated coefficient in Table 1 are those of an ECM model, we can make the following observations:

- The country-by-country and pooled estimates of the short-run marginal Propensities to consume are around 40 percent. It should be noted that, since, throughout our analysis, application of the pooled Within estimator (i.e. Least Square Dummy Variable technique) provided similar estimates as those of the OLS technique, we have not reported these estimates.

- Consumers' expenditure adjust to the past disequilibrium by about 2 percent, as is indicated by the individual country values and the pooled results. But, note that this is not, strictly, true for all of the countries.

- Denmark, Ireland and the U.K. do not show a statistically significant error correction term; i.e. $(Y - C)_{t-1}$. Hence, appropriateness of the ECM model (5) as the data generating process for consumers' expenditure in these three countries is rejected.

V. CONCLUSION

This paper provides country-by-country and pooled cross-section time-series evidence on the estimation and testing of the life cycle model of consumption as it was expounded in Modigliani (1975). As an alternative to this model we utilized Davidson, Hendry, Sarba and Yeo's (1978) error correction model, which assumes consumers are "backward looking". Using Durbin-Watson statistic and some of the recent developments in testing unit roots we found that a dynamic version of the life cycle hypothesis is uniformly rejected for all of the 11 OECD countries in our sample. As a result we favor the error correction model of consumption as the better approximation to the decision making process of consumes. Our estimates of the ECM model show that about 40% of the shocks to income are absorbed by the consumers upon impact; and that it takes some time for the rest of the adjustment to occur.

REFERENCES

Ando, A. and Modigliani, F. (1963). "The 'Life Cycle' Hypothesis of Saving: Aggregate Implication and Tests," American Economic Review, Vol. 53, pp. 55-84.

Baltagi, H. B. and Mokhtari, M. (1989). "Intercountry Evidence on the Performance of the Simple Error Correction Mechanism Model of Consumption," Empirical Economics, forthcoming.

Ball, R. and Drake, P. S. (1964). "The Relationship Between Aggregate Consumption and Wealth," International Economic Review, Vol. 5, pp. 63-81.

Bhargava, A., Franzini, L., and Narendranathan, W. (1982). "Serial correlation and the Fixed Effects Model," Review of Economic Studies, vol. XLIX, pp. 533-549.

Brown, T. M. (1952). "Habit Persistence and Lags in Consumer Behavior," Econometrica, Vol. 20, pp. 355-71.

Davidson, J. E. H., Hendry, D. F., Srba, F. and Yeo, K. S. (1978). "Econometric Modelling of the Aggregate Time-Series Relationship Between Consumers' Expenditure and Income in the United Kingdom," Economic Journal, Vol. 88, pp. 661-692.

Deaton, A. and Muellbauer, J. (1980). Economics and Consumer Behavior, Cambridge: Cambridge University Press.

Dickey, D. A. and Fuller, W. A. (1981). "The Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root," Econometrica, vol. 49, pp. 1057-72.

Duesenberry, J. S. (1949). Income, Saving and the Theory of Consumer Behavior, Cambridge: Harvard University Press.

Evans, M. K. (1967). "The Importance of Wealth in the Consumption Function," Journal of Political Economy, Vol. 75, pp. 335-51.

Friedman, M. (1957). A Theory of the Consumption Function, Princeton: Princeton University Press.

Fuller, W. A. (1976). Introduction to Statistical Time Series, New York: John Wiley & Sons.

Gilbert, C. L. (1986). "Professor Hendry's Econometric Methodology," Oxford Bulletin of Economics and Statistics, vol. 48, pp. 283-307.

Granger, C. W. J., and Newbold, P. (1986). Forecasting Economic Time Series, New York: Academic Press, Inc.

Hall, R. E. (1978). "Stochastic Implication of the Life Cycle-Permanent Income Hypothesis: Theory and Evidence," Journal of Political Economy 86, pp. 971-987.

Hendry, D. F. (1983). "Econometric Modelling: The "Consumption Function in Retrospect," Scottish Journal of Political Economy 30, pp. 193-220.

Hogarth, J. M. (1988). "Saving and Dissaving in Retirement," Proceedings 34th Annual Conference of the American Council on Consumer Interests, pp.19-25.

Houthakker, H. S. and Taylor, L. D. (1970). "Consumer Demand in the United States, 1929-1970, Harvard: Harvard University Press.

Kotlikoff, L. J. (1988). "Intergenerational Transfers and Savings," The Journal of Economic Perspectives, 2, pp.41-58.

Kotlikoff, L. J. (1989). What Determines Saving?, Cambridge: MIT press.

Kravis, I., Heston, A. and Summers, R. (1982). World Product and Income: International Comparisons of Real Gross Product, Phase III, Baltimore: Johns Hopkins University Press.

Kravis, I., Heston, A. and Summers, R. (1978). International Comparisons of Real Product and Purchasing Power, Phase II, Baltimore: Johns Hopkins University Press.

Kravis, Il, Kenessey, Z., Heston, A. and Summers, R. (1975). A System of International Comparisons of Gross Product and Purchasing Power, Phase I, Baltimore: Johns Hopkins University Press.

Modigliani, F. (1975). "The Life Cycle Hypothesis of Saving Twenty Years Later," in Contemporary Issues in Economics, M. Parkin and A. R. Nobay, (eds.), Manchester: Manchester University Press.

Modigliani, F. (1988). "The Role of Intergenerational Transfers and Life Cycle Saving in the Accumulation of Wealth,"The Journal of Economic Perspectives, 2, 15-40.

Mokhtari, M. (1986). "Econometric Modeling of the Aggregate Time-Series Relationship Between Consumption Expenditure and Income: An International Analysis," Department of Economics, University of Houston, Houston.

Mokhtari, M. (1990). "The Error Correction and Random Walk Models of Consumers' Expenditure: A Multi-Country Analysis", Department of Textiles and Consumer Economics, University of Maryland-College Park.

Phillips, A. W., 1954, "Stabilisation Policy in a Closed Economy," The Economic Journal, vol. 64, pp. 290-323.

Sargan, J. D. (1964). "Wages and Prices in the United Kingdom: A Study in Econometric Methodology" In Econometric Analysis for National Economic Planning (ed. P. E. Hart, G. Mills and J. K. Whitaker), London: Butterworths Scientific Publications.

Spiro, A. (1962). "Wealth and the Consumption Function," Journal of Political Economy, Vol.70, pp. 339-354.

White, H. (1980). "A Heteroscedastic-Consistent Covariance Matrix Estimator and a Direct Test for Heteroscedasticity," Econometrica, vol. 48, pp. 421-448.

U. S. CLOTHING EXPENDITURES: A TIME SERIES ANALYSIS, 1929-1987

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The relationship between U. S. aggregate expenditures on clothing and selected economic and demographic factors was examined for the years 1929-1987. Clothing prices, personal disposable income, population size, and two major economic disturbances, the depression and World War II, were variables included in the statistical model. The results indicated that U. S. clothing demand is both own-price and income inelastic. Income had a statistically significant effect, while clothing prices did not. Population size had a significant negative effect.

INTRODUCTION

From 1929 to 1987, clothing and shoe expenditures (CSE) have increased at a rate of 5.84 percent per year while total personal consumption expenditures (PCE) rose at an annual rate of 7.15 percent (see Table 1 and Graphs 1 and 2). Some of this growth reflects price increases rather than actual increases in demand. During this same period, clothing prices, based on the Consumer Price Index for apparel and upkeep (CPIAPP), increased at a rate of 2.94 percent per year while the Consumer Price Index for all goods (CPI) rose at a rate of 3.60 percent per year (see Table 1 and Graph 3). Taking price increases into consideration, constant dollar clothing and shoe expenditures have risen at a rate of 2.90 percent per year while total personal consumption expenditures have increased at a yearly rate of 3.38 percent (see Table 1 and Graphs 1 and 2) (Office of the President of the United States 1970 and 1988; U. S. Department of Labor 1988).

TABLE 1. Average Annual Rates of Change in Expenditures and Disposable Personal Income in Current and Constant Dollars and Prices: 1929-1987[2]

Item	Average Annual Rate of Change Current Dollars	 Constant Dollars
	%	%
Clothing & Shoe Expenditures	5.84	2.90
Total Personal Consumption Expenditures	7.15	3.38
Clothing Budget Share	-1.31	-0.048
Disposable Personal Income	7.19	3.41
Apparel and Upkeep Prices	2.94	
Overall Prices	3.60	

Besides price, an additional economic factor which affects consumer expenditures is income. Although disposable personal income (DPI) (in current dollars) increased at a yearly rate of 7.19 percent per year, real DPI increased at a slower rate--3.41 percent per year (see Table 1 and Graph 4).(Office of the President of the United States 1970 and 1988). Both income and the relative price of clothing are two major factors affecting the percent of total PCE allocated to clothing expenditures. Over time, this ratio, or the clothing budget share, decreased at a rate of 1.31 percent per year. In real terms, however, this ratio has shown a decline of .048 percent per year (see Table 1 and Graph 5). As apparel producers and retailers face greater competition, not only among themselves but with providers of other goods and services, both absolute and relative clothing expenditures are of obvious concern.

It is the purpose of this study to ascertain the relative effect of selected socio-economic and demographic variables on U. S. clothing expenditures between 1929 and 1987. Other factors besides prices and income that affect consumption patterns will be included in the analysis. This research will attempt to answer questions such as "To what extent have clothing expenditures been affected by price changes, income changes, and population growth?" "What effect did events such as the depression and World War II have on U. S. clothing expenditures?" The model developed will also allow specific price and income elasticities of demand for clothing to be estimated.

An understanding of clothing consumption trends is not only important to apparel retailers and manufacturers, but to other professionals interested in U. S. consumption patterns. Recent research on clothing expenditures has provided an updated picture of household clothing consumption behavior at a point in time (Nelson 1989; Norum 1989). Yearly changes in clothing consumption have been discussed (Courtless 1988), but the trends have not been analyzed within a time series framework. Some work has been done analyzing clothing expenditures over time (Winakor 1962; Winakor 1986; Winakor 1989); however, extensions of these studies are warranted.

REVIEW OF LITERATURE

Recent trends in clothing and textiles are presented on a yearly basis in the Family Economic Review. The most current analysis indicates that annual per capita expenditures on clothing and shoes in 1987 was $724. Ninety percent of the $29 increase over 1986 was attributed to increased prices. The Consumer Price Index for apparel commodities rose 7.3 percent over the previous year. Women's dresses, suits, coats and jackets, separates and sportswear, as well as men's shirts showed the greatest price increases. This was the third year in a row that the price of clothing rose faster than overall prices (Courtless 1988).

Analysis of clothing expenditures from one year to a next is very important to an understanding of the current clothing consumption situation in the United States. However, additional insight can be gained by looking at clothing consumption over a longer time period. Clothing expenditures from 1929-1958 (Winakor 1962) and from 1929-1984 (Winakor 1986) have been analyzed. In her initial study, Winakor (1962) separately examined the effect of total expenditures, the relative price of clothing and time on clothing expenditures. Data from Illinois farm families, as well as the Department of Commerce were used. Information for the war years was excluded from the analysis "because exceptional market conditions prevailed at that time" (p. 116). An expenditure elasticity near one was estimated for both samples. As expected, the price effect was negative. However, an actual magnitude for the price elasticity was not presented. The time trend variable was also negative. Winakor (1962) attributed the decline in the budget share for clothing to quality changes in clothing not reflected in the price index, and the possibility that clothing may actually be considered to be more of a necessity than a luxury by consumers (Winakor 1962).

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In Winakor's more recent studies (1986; 1989), data from the Survey of Current Business were used. A variety of approaches, including graphic techniques and ordinary least squares regression, were used to analyze the data. Total clothing and shoe expenditures, as well as the budget share for clothing and shoe expenditures, were examined. Previous year's expenditures, as well as yearly changes in expenditures were found to affect clothing expenditures. From her most recent study, Winakor (1989) concluded that clothing could not be considered a necessity, and, based on a point elasticity calculation, clothing appeared to be price inelastic. Additionally, a stock coefficient of .0327 was calculated, but Winakor did not calculate both an adjustment and depreciation rate.

Bryant and Wang (1988) conducted a more recent and comprehensive time series analysis of the U. S. demand for various durables, nondurables, and services. The primary purpose of this study was to determine the impact male and female wage rates had on shifts in demand away from nondurables towards durables and services. Quarterly data from the National Income and Product Accounts from 1955-1984 were used. An econometric model was developed in which expenditures on durables were viewed not only as a function of current prices and income, but as a function of lagged price, income, and expenditures.

Clothing and shoes, which were treated as durables, were estimated to be unitary price elastic, and wage rate and permanent income inelastic. The results indicated that as the value of female and male wage rates have increased, the demand for clothing and shoes has also increased. In addition, a depreciation rate of .6070 and an adjustment rate of .6511 were estimated (Bryant & Wang 1988).

THEORETICAL AND EMPIRICAL MODELS

A clothing consumption process model has been developed in which the acquisition, use, maintenance, storage, and discard of apparel are explicitly recognized as interrelated components (Winakor 1969). Within the clothing consumption framework, clothing is viewed as a semidurable or durable good. In light of the durable nature of clothing, it is necessary to explicitly recognize that households have a stock of clothing available to them from which services flow. The demand for apparel will be conditioned upon past decisions that constrain both the availability of income and current consumption. The demand for clothing in the current period will be composed of a "new" demand for apparel, as well as "replacement" demand that results from product depreciation. This is reflected in the following equation, which has typically served as the basis for estimating durable purchases demand (Bryant 1983; Norum 1989):

$$(1)\quad q_{lt} = h^{1}(p_{lt} \ldots p_{nt}, Y_t) - (1 - \delta)\, S_{lt-1}$$

where:

q_{lt} = the quantity of good l purchased in period t
p_{kt} = the price of good k in period t, k = 1 to n
Y_t = total income in period t
S_{lt-1} = the stock of good l at the end of period t-1 which is carried over into the current period, t
δ = depreciation rate in the stock

Estimation of this equation requires information on the flow of services from clothing stock as well as prices and income. Because information on a household's durable stock, particularly for clothing, is generally unavailable, this model has been modified. Using Chow's (1960) stock adjustment model as a basis, Bryant and Wang (1988) developed a demand equation for household durables in which durable expenditures in constant dollars are used as the dependent variable, and current and lagged prices and income, as well as lagged expenditures were included as independent variables. This model is written as:[3]

$$(2)\quad Q_{it} = d_i r_i \alpha_i + r \sum_k B_{pik} P_{kt} - (1-d_i) r_i \sum_k B_{pik} P_{kt-1} + r B_{iy} Y_t - (1-d_i) r_i B_{iy} Y_{t-1} + (1-r_i) Q_{it-1}$$

where

Q_{it} = expenditures on good i purchased in period t, i = 1 to n
P_{kt} = the price of good k in period t, k = 1 to n
P_{kt-1} = the price of good k in period t-1, k = 1 to n
Y_t = total income in period t
Y_{t-1} = total income in period t-1
Q_{it-1} = expenditures on good i in period t-1, i = 1 to n
B_{pik} = long-run own and cross price effect
B_{iy} = long-run income effect
d_i = annual depreciation rate
r_i = annual adjustment rate

This equation serves as the basis for the statistical estimation in this research. Two-stage least squares rather than ordinary least squares was the statistical procedure used because equation (2) is overidentified (Intriligator 1978). Two-stage least squares requires replacing the endogenous variables in the equation (P_{kt}, P_{kt-1}, and Q_{it-1}) with predicted values. Thus, reduced form equations were estimated for each endogenous variable using ordinary least squares. In the second stage, predicted values of the endogenous variables were included in the equation along with other appropriate exogenous variables. The final equation that was estimated using ordinary least squares was:

$$(3)\quad Q_{it} = b_0 + b_1\widehat{P}_{kt} + b_2\widehat{P}_{kt-1} + b_3 Y_t + b_4 Y_{t-1} + b_5\widehat{Q}_{t-1}$$

where:

$\widehat{P}_{kt}$ = predicted value of P_{kt}
$\widehat{P}_{kt-1}$ = predicted value of P_{kt-1}
$\widehat{Q}_{it-1}$ = predicted value of Q_{it-1}

and the other variables remain as previously defined.

DATA AND VARIABLE MEASUREMENTS

Apparel Expenditures and Income

The National Income and Product Accounts provided yearly data from 1929 to 1987 on apparel expenditures and income (Office of the President of the United States 1970 and 1988).[4] Constant dollar expenditures on clothing and shoes (CSE) were used as the dependent variable. Clothing and shoe expenditures lagged one period were also included as an independent variable (LAGCSE). Disposable personal income (DPI) in constant dollars was another independent variable. The implicit price deflator for Personal Consumption Expenditures (base year=1982) was used to deflate the current dollar values.

Apparel Prices

The price of clothing was measured by the Consumer Price Index (CPI) for apparel and upkeep (base year-1982-84), available from the Bureau of Labor Statistics (U. S. Department of Labor 1988).[5] This index was also used to calculate constant dollar clothing expenditures.

Additional Independent Variables

Typically, in time series analysis taste shifters such as age and education are not included in the analysis. This same approach has been taken here, although variables to measure population size and major economic disturbances were included. Population size was included in the equation because expenditures and income were not expressed on a per capita basis. This allows the specific effect of population growth on apparel expenditures to be measured. The variable measures the population of the United States on July 1 of a given year, including Armed Services overseas; Alaska and Hawaii are included beginning in 1960 (Office of the President of the United States 1970 and 1988).

In addition, variables to account for the depression years and World War II were included. A dummy variable used to capture the effect of the depression was assigned a value of one for the years 1929-1933 and a zero otherwise. A dummy variable was included to measure the effect of World War II on aggregate clothing expenditures due to the restrictions (Limitation Order L-85) placed on clothing production and consumption during the war. The variable was assigned a value of one for the years 1941-1945 and a zero otherwise.

RESULTS

This section contains the results from the apparel expenditure function and related estimates. Table 2 presents the statistical estimates for the equation, while Table 3 presents the estimated short-run elasticities as well as depreciation and adjustment rates.

TABLE 2. Parameter Estimates for the U. S. Apparel Expenditure Equation, 1929-1987

Variable	Regression Coefficient	Standard Error
Intercept	14.03***	7.14
Price	-0.26	0.30
Lagged Price	0.32	0.28
Income	0.055*	0.01
Lagged Income	-0.04**	0.14
Lagged Expenditures	0.89*	0.13
Population	-0.00014**	0.00006
Depression	-2.43	1.91
World War II	0.95	1.36

* = significant at = .01
** = significant at = .05
*** = significant at = .10

N = 57
DW = 1.37
R = .99

TABLE 3. Estimates of Short-Run Price and Income Elasticities at the Point of Sample Means, Depreciation and Adjustment Rates

Short-Run Elasticities		Depreciation	Adjustment
Price	Income	Rate	Rate
-.1902	.9740	.22395	.11008

The regression results indicate that the estimated effect of price, income, and lagged expenditures is as theoretically expected. The current price effect is negative, while the lagged price effect is positive. Neither of these variables, however, is statistically significant. The current income effect and lagged income effect are positive and negative, respectively. Each of these variables was found to have a statistically significant effect. The statistically significant effect on the lagged dependent variables was positive. Population had a significant negative effect on annual apparel expenditures. The dummy variables used to control for the effects of the depression and World War II were statistically insignificant.

The price elasticity for clothing and shoes was -.1902. This elasticity indicates that the demand for apparel is own-price inelastic. The income elasticity was equal to .9740. This suggests that the demand for apparel is income inelastic. The estimated depreciation rate is .27273, while the estimated adjustment rate is .11008.

The estimated depreciation rate of .27273 suggests that 75% of any initial stock in clothing and shoes will depreciate in five years. Although this value is relatively low, it is important to bear in mind that this value simply reflects the effect of physical depreciation. As Bryant and Wang (1988) point out, "(T)he depreciation households experience when selling used durables, however, represents the depreciation in value which includes physical depreciation and any decline in the market value per physical unit" (p. 15). One would expect that used clothing would lose market value due to the loss of fashion appeal. Since the estimated depreciation rate does not reflect this effect, the value is lower than it might otherwise be. Given the relative durability of clothing, it is possible that the effect of fashion obsolescence on the depreciation rate is even greater than the effect of physical deterioration.

The estimated adjustment rate of .1108 indicates a rather slow adjustment rate. This rate indicates that the difference between actual consumption this year and last year is some fraction (.11) between where households were with respect to the clothing stock and where they would like to be. Bryant and Wang (1988) point out that the lack of good used markets for particular types of durables may hamper a household's ability to adjust the stock of that durable. For clothing, there has generally been a well established market for buyers of used clothing (e.g., garage sales, second hand stores, vintage clothing stores), but the market for consumers wishing to sell used clothing has not been very extensive. Garage sales or similar arrangements have served as the primary outlet available to consumers selling clothing directly to other consumers; the market for garage sale items is not as well developed for some categories of apparel (e.g., adult clothing) as compared with others (children's clothing). A primary means for clothing disposal has been the donation of clothes (for no payment or possibly a tax deduction).

Compared to Bryant and Wang's (1988) estimated depreciation rate of .61 and adjustment rate of .65, the depreciation and adjustment rates in this study are low. The difference in these values may reflect differences in the time periods used in each analysis, as well as the difference in model specification.

CONCLUSIONS

The primary purpose of this study was to examine the effect of economic variables on U. S. aggregate clothing and shoe expenditures for the time period 1929-1987. Unlike much of the previous time series research on clothing demand, this was done within a multivariate context. A modification of the standard stock-adjustment model was used, allowing expenditures to be used as the dependent variable, and lagged expenditures as an independent variable. Two-stage least squares was used to estimate the expenditure equation.

The results indicated that income has a statistically significant effect on apparel expenditures, while apparel price does not. The calculated elasticities indicate that U. S. clothing demand is both own-price and income inelastic. These results lend support to the findings and inferences of other researchers (Bryant & Wang 1988; Winakor 1986). Both the adjustment and depreciation rates seem reasonable for apparel, particularly in light of the fashion element embedded in apparel, and the lack of markets in which consumers may directly sell used clothing.

Based on historic trends, apparel manufacturers and retailers can expect consumer expenditures on clothing in both absolute and real dollars to continue to increase. However, the gain in real terms will be at a slower rate. Clothing expenditures as a percent of total personal consumption expenditures should remain fairly steady in real dollars, but may show a decline in absolute terms. Both clothing prices, and the prices of all consumer items can be expected to continue their overall positive trend. Given that changes in the price of clothing were not found to have a significant effect on aggregate U. S. clothing expenditures, as well as the relative price inelasticity of clothing demand, this positive trend in prices could be expected to have a minimal negative effect on clothing demand. On the other hand, relatively slow growth in disposable personal income, coupled with the income inelasticity of clothing demand is unlikely to provide a tremendous boost in clothing expenditures. Given the negative relationship between population growth and clothing expenditures, when taking other factors into consideration, future growth in the population is unlikely to result in greater per capita clothing expenditures.

Future research in this area might expand upon the model used in this study by including other characteristics of the population. For example, variables to measure the age of the population, labor force participation of women, or the number of people in various racial categories could provide insight into how clothing expenditures could be expected to change as these factors change. In addition, specific categories of apparel, such as men's, women's, and children's, could be analyzed to determine the extent to which elasticities, adjustment and depreciation rates vary between the categories. Investigation of factors that affect the adjustment and depreciation rates would also be insightful and have potential implications for consumer welfare. For example, does the fashion element embedded in clothing or physical deterioration have a greater effect on the depreciation of clothing stock? Another potential avenue of research would be to examine clothing expenditures within the context of a complete demand system.

REFERENCES

Bryant, W. Keith (1983), "Conditional Demand Functions, Separability, and the Length of Run: Some Notes for the Applied Researcher of Household Behaviour," Journal of Consumer Studies and Home Economics, 7: 187-200.

Bryant, W. Keith and Yan Wang (1988), "American Consumption Patterns and the Price of Time: A Time-Series Analysis," working paper, Consumer Economics and Housing, New York State College of Human Ecology, Cornell University, Ithaca, NY.

Chow, Gregory (1960), "Statistical Demand Functions for Automobiles and Their Use in Forecasting," in Harberger, A. C. (Ed.), The Demand for Durable Goods, Chicago: University of Chicago Press.

Courtless, Joan C (1988), "Recent Trends in Clothing and Textiles," Family Economic Review, 2: 10-16.

Intriligator, Michael D. (1978), Econometric Models, Techniques and Applications, Englewood Cliffs, NJ: Prentice-Hall, Inc.

Nelson, Julie (1989), "Individual Consumption within the Household: A Study of Expenditures on Clothing," Journal of Consumer Affairs, 23: 21-44.

Norum, Pamela S. (1989), "Economic Analysis of Quarterly Household Expenditures on Apparel," Home Economics Research Journal, 17: 228-240.

Office of the President of the United States (1970), Economic Report of the President, Washington, DC: U. S. Government Printing Office.

Office of the President of the United States (1988), Economic Report of the President, Washington, DC: U. S. Government Printing Office.

U. S. Department of Labor, Bureau of Labor Statistics, (1988), Consumer Price Index, All Urban Consumers, U. S. City Average, All Items, 1982-84 = 100.

U. S. Department of Labor, Bureau of Labor Statistics. (1988), Consumer Price Index, All Urban Consumers, U. S. City Average, Apparel and Upkeep, 1982-84 = 100.

Winakor, Geitel (1962), "Consumer Expenditures for Clothing in the United States, 1929-1958," Journal of Home Economics, 54: 115-118.

_______ (1969), "The Process of Clothing Consumption," Journal of Home Economics, 61: 629-634.

_______ (1986, October 23), "Trends in Aggregate Clothing Expenditures in the U. S., 1929-84," Association of College Professors in Textiles and Clothing Proceedings, Houston, Texas, 130.

_______ (1989), "The Decline in Expenditures for Clothing Relative to Total Consumer Spending, 1929-1986," Home Economics Research Journal, 17: 195-215.

NOTES

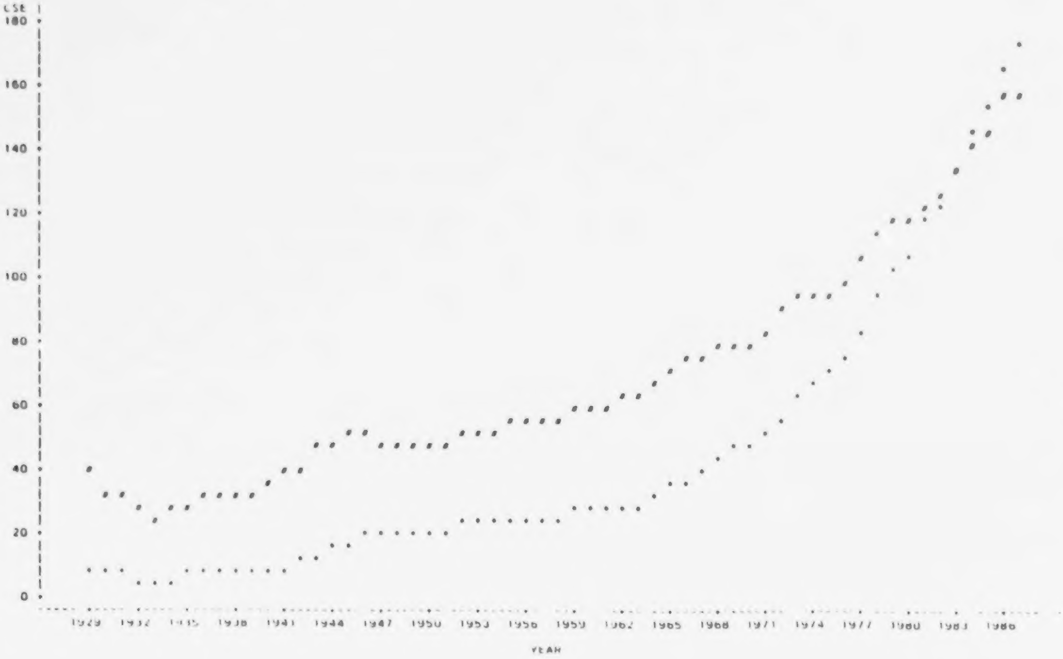
[2] The average annual percent changes were estimated based on simple regression equations where the natural log of each item listed in Table 1 was the dependent variable and a trend variable was the independent variable. The estimated coefficient indicates the percent change in the dependent variable for each one year change in time.

[3] See Bryant and Wang (1989) for the algebraic derivation of this equation.

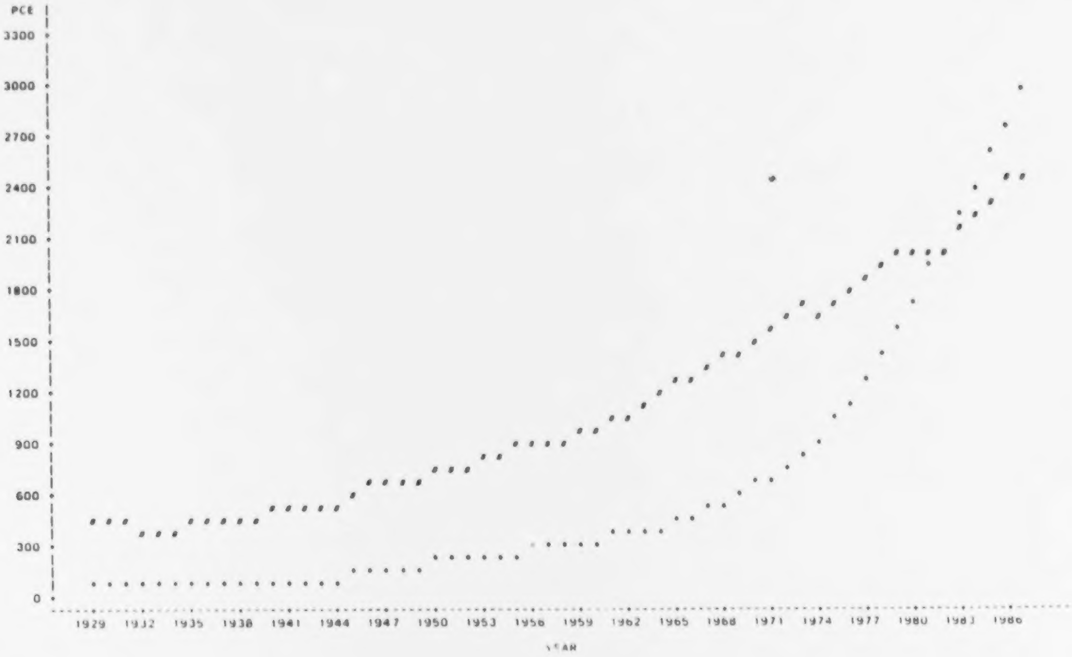
[4] Although the data were published as a historical series from 1929 to 1987, certain years were omitted. Data for these years were obtained through personal conversation with a Bureau of Economic Analysis employee.

[5] In January 1987, the Bureau of Labor Statistics updated the CPI to reflect changes in purchasing patterns. The base years for the new index are 1982-84. Although a historical series has not yet been published, the data can be obtained from BLS.

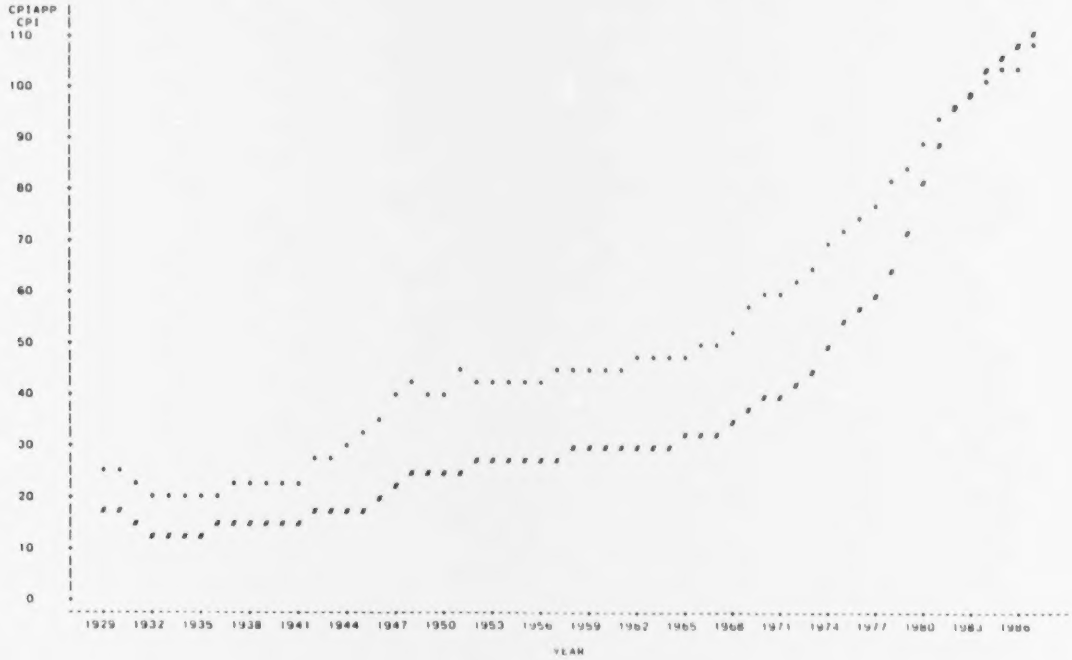
GRAPH 1. Plot of Current and Constant Dollar Clothing and Shoe Expenditures, 1929-1987 (Current Dollar = *, Constant Dollar = #)



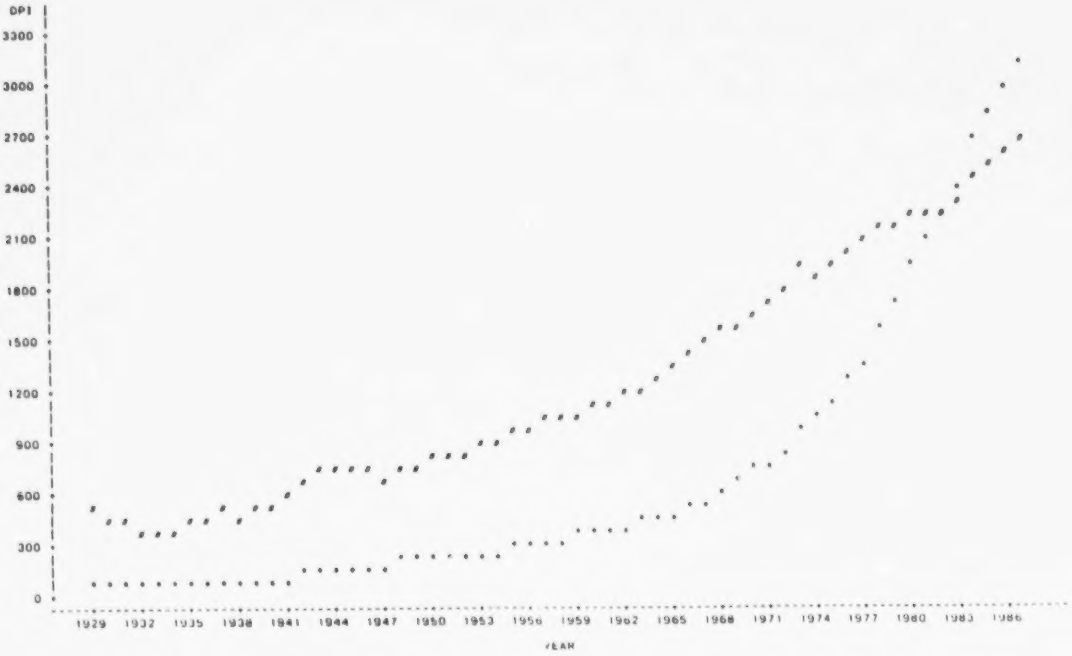
GRAPH 2. Plot of Current and Constant Dollar Personal Consumption Expenditures, 1929-1987 (Current Dollar = *, Constant Dollar = #)



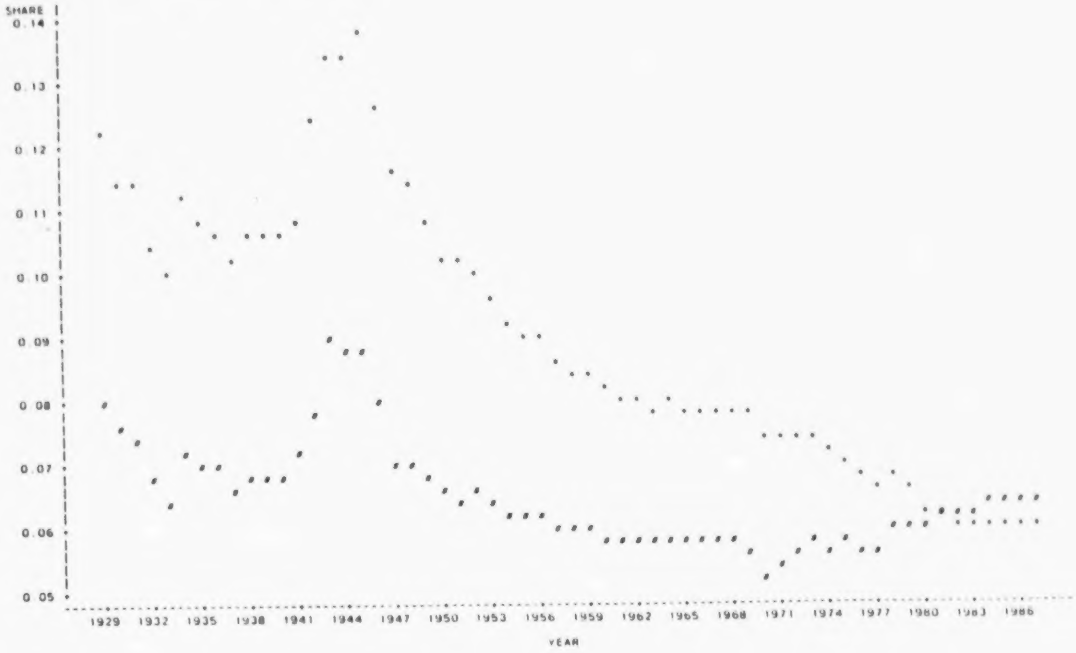
GRAPH 3. Plot of Consumer Price Index, Apparel and Upkeep (*), and All Items (#), 1929-1987



GRAPH 4. Plot of Current and Constant Dollar Disposable Personal Income, 1929-1987
(Current Dollar = *, Constant Dollar = #)



GRAPH 5. Plot of Current and Constant Dollar Clothing Budget Share, 1929-1987
(Current Dollar = *, Constant Dollar = #)



ISSUES RELATED TO CONSUMPTION: DISCUSSION

Helen H. Jensen, Iowa State University[1]

The three papers in this session relate to the measurement and modeling of consumption behavior. Although each paper addresses a different type of consumption behavior, the three illustrate the use of theory and empirical analysis to understand consumption behavior. I discuss the three papers in turn, and then make some general observations.

The Hama and Basiotis paper uses the statistical method of canonical correlation to analyze the relationship between food groups and nutrients. This approach identifies the association between the observed dietary intake in terms of food groups and, what is often the direct measure of dietary status, intake of nutrients. In that, this type of analysis provides a useful precursor to formulating data for more structured analysis of dietary behaviors.

Evaluating dietary status can be approached by identifying statistical associations, or by developing theoretical structures which identify determining factors of dietary outcomes. Those theories may be based on physiological models, or other models from behavioral sciences. The choice of the approach to analyzing dietary status has implications both for the method of analysis and also the type of conclusions and implications which can be drawn from the analysis. And of course, the two types or approaches to analysis can be used to support one another. That is, associations identified through "purely" statistical or empirical evaluation of data, can be used to develop the appropriate variables for use in the more structured analysis. As applied to the evaluation of dietary status in the Hama-Basiotis paper, the canonical correlation is used to identify associations between food groups and nutrients. Their analysis shows that where statistical associations are strong between the two, it is possible to use either food groups or nutrient intake to explain the dependent, and resulting, dietary status.

It is important to recognize that the strength of the identified association between food groups and nutrients is dependent on the initial definition of food groups and nutrients. Food groups chosen for this analysis are groupings based on the food source, such as dairy products, grains and cereals, vegetables, fruits, meat, etc. Because of the distribution of nutrients within the food supply, this grouping of foods by itself leads to strong association between nutrients and the food groups. The identified relationship is dependent on the definition of groups. Hama-Basiotis bring out this point as well. However, the implication is that other structures such as food groups defined on the basis of eating behaviors, may not be as successful in showing links between nutrients and the food groupings. What Hama-Basiotis do show is that food groups based on the source of food have a strong association with nutrients. This fact has useful implications for the design of survey and screening methods design.

Is this technique applicable for other food groups or for other food characteristics, such as those related to food quality or the safety of food? Yes, in many cases. While the canonical correlations do not allow us to predict behaviors, they do allow us to better understand when identified food groups may substitute for specific nutrients. This may be important if we have limited access to data, or when making dietary recommendations in terms of eating behaviors. For those more used to developing and applying theoretical structures in empirical analysis, Hama-Basiotis have shown that there are possibilities for better understanding data before proceeding with later analysis.

The Mokhtari paper compares two models of consumption and income: the life-cycle hypothesis model versus an error-correction model. The error-correction model is primarily empirically-based. As Mokhtari shows, the two empirical structures have implications for the distribution of the error term. The finding is that the error-correction model error structure is consistent with the data and dominates the life-cycle hypothesis model. This finding shows consumers to be "backward looking", making current consumption decisions based on past income levels. Policies which affect current period income will affect consumption now and, subsequently, in future periods under the error correction model in contrast to the life-cycle model which shows current consumption to be affected by changes in future streams of income. This has implications for the development of tax and income policies.

In addition to testing the two models, Mokhtari also provides estimates of the short-run marginal propensity to consume and adjustment coefficients for consumers. It would be useful, as well, to have reported long-run marginal propensities to consume as well as information on how long adjustments to changes in income would take. It appears that the adjustment coefficients are quite small, suggesting that current period changes in income have the greatest effect on consumption, and changes in later periods take a long time for full adjustment.

The data set which Mokhtari uses should hold a great deal of interest for those making inter-country comparisons of consumption. However, there are inter-country differences in public versus private sector consumption. We would expect the private marginal propensity to consume to be higher, for example, in countries where a large share of risk-related expenditures (such as for health care) are paid for through the public sector (i.e., consumers do not need to save as much for precautionary reasons.) Also, there is an opportunity for analyzing the effects of changes over time in income distribution, or demographic composition with the analysis which Mokhtari has presented.

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[1] Associate Professor of Economics

The final paper by Norum uses an economic approach to analyze changes in U.S. clothing expenditures over time. As the paper shows, there have been changes in consumption for clothing over time. Norum finds clothing demand to be both own-price and income inelastic, although the clothing price effect is statistically insignificant. The effects of population on clothing demand were found to be negative.

Economic theory predicts that prices have an effect on clothing demand. Also, we expect as population increases that demand for clothing would also increase. That is, the theoretical structure guides the expected results. When the results are not as predicted, it is important to consider reasons why this is so. For example, a major change in clothing has been in the quality of clothing. Accounting for changes in quality, or "quality-adjusted" clothing, may show price to be a statistically significant predictor of clothing expenditures.

Among other factors which may have affected demand for clothing are the changing age composition of the population and labor force participation of women. The labor force participation of women will have an effect on demand for clothing, both through income as well as through direct effects on demand (as predicted by household production theory). Also, changes in the age distribution of the population may explain changes in clothing demand and improve predictions as the population ages in the future. There are several possibilities for further development of the model specification and empirical analysis.

All three papers highlight the interaction between theoretical structures and empirical specification. Empirically based procedures and analysis have advantage in being able to identify the characteristics of the data and time trends which best describe the underlying data. However, it is with the theoretical structures that we are able to model, predict, and develop effective policies and programs.

ATTORNEYS IN THE SMALL CLAIMS COURT PROCESS: HELP OR HINDRANCE?

Patricia A. Bonner, U.S. Consumer Information Center[1]

This paper examines the impact of legal assistance on the small claims outcome from two perspectives. First, it presents an overview of literature exploring the influence of legal advice and representation on plaintiff success (i.e. winning and collecting). Second, plaintiff perceptions and assessments of the influence of legal assistance on the process in one Missouri Small Claims Court are reported. For small claims in general, these findings suggest that while legal assistance sometimes makes the procedure more formal and complex, it rarely affects the likelihood and size of plaintiff success.

INTRODUCTION

One of the many decisions litigants and potential litigants face in the pursuit of a dispute through the small claims process is whether to seek the advice or representation of an attorney (especially if the opposition is represented). While the small claims court is touted as a quick, simple means for citizens to resolve disputes over small dollar amounts without an attorney, can pre-trial advice or legal representation influence plaintiff success? Popular opinion holds that a represented litigant has at his or her advantage an attorney's special legal skills and knowledge to promote a case. It is believed plaintiffs who receive legal assistance can increase their chances of a favorable outcome and defendants seek the assistance of an attorney to reduce the chances of plaintiff success. On the other hand, could the presence of an attorney do more harm than good? Perhaps the presence of an attorney injecting legal technicalities (and sometimes delay) into the proceedings has a negative psychological impact on the judge and hence, a negative impact on the judge's decision. Furthermore, in cases where only one of the litigants is represented, could the judge in an effort to correct the imbalance consciously or unconsciously favor the underdog--the unrepresented litigant?

The purpose of this paper is to examine the impact of attorney participation on the small claims case outcome--to what extent do attorneys affect the outcomes of the process? This report addresses that question from two perspectives. First, it presents an overview of literature which has explored the influence of legal advice and representation on plaintiff success. Second, results of a study of plaintiff perceptions and assessments of the impact of litigant legal assistance on the small claims process in one Missouri Small Claims Court are reported. This information will provide educators and counselors with a basis for assisting litigants and potential litigants to make more informed decisions on whether and how to make use of an attorney during the small claims process. Knowing the extent to which legal assistance influences success in the small claims court trial is equally critical to policy makers and lobbyists in court reform.

REVIEW OF LITERATURE ON IMPACT OF LEGAL COUNSEL ON SMALL CLAIMS COURT CASES

Do the special legal skills and knowledge of an attorney provide the advantage in the small claims process that it is popularly believed they offer? A summary of the findings of studies addressing this question are found in Table 1. Early research focused on the impact of legal representation on a litigant's chance of winning in court (Downing, Peters, and Sankin 1975; Jones 1974; Steadman and Rosenstein 1973; Weiss 1972). The findings of the studies cited offered statistical support to those arguing that attorneys were creating an imbalance in the small claims process. Over and over, plaintiffs who were represented by an attorney were found to be more successful than plaintiffs who were not represented. Conversely, represented defendants won more often than unrepresented defendants. The rate of success was especially high when a represented litigant faced an unrepresented opponent.

At the end of the seventies, however, contradictory findings began to appear. A 1977 report of the court system in Rochester, New York (Weller, Ruhnka, and Martin) and a 1981 examination of a Tallahassee, Florida court (Purdum) both found no significant difference between the success rates of plaintiffs with representation at trial and those who did not have representation.

All the investigations mentioned above used cross-tabulations to explore the bivariate relationship between the legal assistance received by one or both of the litigants and the rate of plaintiff success in court. An inherent weakness in these analytical efforts is the fact that other variables were allowed to vary while the relationship between the two specific variables of interest was examined. And with the exception of the Rochester study, the focus was litigant legal representation at the trial; the influence of other types of help from an attorney (e.g. pre-trial advice, collection) was not examined. In the Rochester study, both help from an attorney in settlement negotiations and in

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[1] Agency Liaison and Consumer Information Specialist. This paper does not represent an official position of the U.S. General Services Administration, Consumer Information Center.

TABLE 1: Summary of Effects of Legal Assistance on Plaintiff Success

	Type of Assistance		
	Plaintiff		Defendant
Study	Received Pre-Trial Advice	Represented at Trial	Represented at Trial
BIVARIATE ANALYSIS			
Likelihood of Judgment for Plaintiff			
Weiss 1972 (Cambridge, MA)		+	-
Steadman & Rosenstein 1973 (Phila., PA)[a]		+	-
Jones 1974		+	-
Downing, Peters, & Sankin 1975 (Toledo, OH)		+	-
Weller, Ruhnka & Martin, 1977 (Rochester, NY)	+	ns	
Purdum, 1981 (Tallahassee, FL)		ns	-
MULTIVARIATE ANALYSIS			
Likelihood of Judgment for Plaintiff			
Bradley, 1982 (Syracuse, NY)[a]	-	ns	
Bonner, 1987 (Columbia, MO)[b]			
--given plaintiff appears	ns	ns	
--given both litigants appear	ns	ns	+
Proportion of Claim Awarded			
Bonner, 1987 (Columbia, MO)[c]			
--given plaintiff appears	ns/ns	ns/ns	
--given both litigants appear	ns/ns	ns/ns	-/ns
Likelihood of Collection			
Bonner, 1985 (Columbia, MO)			
--given plaintiff won	ns	ns	ns
--given plaintiff won and collection trouble occured	-	ns	ns

KEY:
- negative impact on outcome
+ positive impact on outcome
ns no significant impact

[a] Consumer plaintiffs only.

[b] Individual plaintiffs only. With a plaintiff success rate of 94 percent among cases filed by businesses, the overriding determinant of plaintiff success was the type litigant who filed; it was deemed inappropriate to use multivariate analysis on the probability of business plaintiff success.

[c] Individual/Business plaintiffs reported separately.

preparing for trial were found to increase the proportion of plaintiffs who were successful.

Two more recent examinations of Small Claims Courts in Syracuse, NY and Columbia (Boone County), MO introduced legal advice as an independent variable and used multivariate analysis to overcome some of the weaknesses of the prior studies. Both studies offer further support that the assistance of an attorney may not be as helpful as many persons thought. A 1982 article on the consumer cases in the Syracuse, NY Small Claims Court (Bradley, Sherman, and Bryant) provides the first empirical evidence that assistance from an attorney may actually be detrimental to a case. Using multivariate logit analysis, Bradley et. al. explored an array of independent variables (including socioeconomic characteristics of the plaintiff). Only two dummy variables were found to have a significant impact in the model; advice from a lawyer and court staff were found to lower the probability of winning a consumer small claims case in court. Legal representation by an attorney was included in the models but was not found to be a significant factor.

In the examination of the Missouri Court (Bonner 1987), multivariate logit and multiple regression were used to examine what factors best predict the likelihood and size of small claims outcomes favoring the plaintiff. Again, the effects of a set of variables reflecting the socioeconomic characteristics of the litigants and the legal assistance they received were evaluated. An attorney providing the plaintiff with pre-trial advice or representation in court was found to have no influence on the probability of judgment for the plaintiff or the percentage of the claim awarded the successful litigant (Bonner 1987).

With respect to the influence of an attorney representing the defendant, a different and very interesting story unfolded. Among cases filed by individuals where both litigants appeared for the small claims trial and an attorney represented the defendant, the probability of judgment for the plaintiff increased but the proportion awarded declined. The significance of this variable in these latter equations may be attributed to one or both of the following facts. First, the defendant may be more likely to seek out the assistance of an attorney in the more complicated cases in which the potential loss is larger. In addition, the defendant may be benefiting from enhanced counterarguments to the plaintiff's claims.

In another phase of this same research project (Bonner 1985), litigant use of legal advice and representation by an attorney was investigated in relation to probabilities of judgment satisfaction. Overall, the likelihood of full judgment satisfaction was not influenced by the plaintiff's or defendant's legal representation. Whether the plaintiff received advice from an attorney prior to the trial influenced only one of the probabilities examined--the probability of collection in full. Contrary to predictions, obtaining advice from an attorney was found to be negatively related to collection in full. Again, it may be that an attorney's counsel is sought primarily in what are anticipated to be difficult cases.

PLAINTIFF PERCEPTIONS AND ASSESSMENT

Data Source and Method of Collection

The data used to analyze plaintiff perceptions and assessment of legal assistance received are from the same Boone County (Missouri) Small Claims Court noted above. The data were collected in a two-step process: a search of court records followed by telephone interviews. First, the records of the 387 cases filed in the Boone County Small Claims Court for calendar year 1982 were examined. Specific characteristics of each case including the types of litigants and litigant representation at trial were noted.

With regard to the second phase of the data collection process, efforts were made to telephone interview (in January though July of 1984) each plaintiff who filed in the court during the one year period. Since some plaintiffs filed more than one case during the year under study, 348 plaintiffs were identified to be interviewed. Complete interviews were conducted with 252 or 72 percent of these 348 plaintiffs. While 131 or 62 percent of the 213 individual plaintiffs in the population responded to the interviewer's questions, 84 or 90 percent of the 93 full-time business plaintiffs responded. The part-time business category had the highest response rate: 37 or 93 percent of the 40 part-time business plaintiffs responded.

No attempt was made to contact the defendants in these small claims cases. Data regarding the defendants legal representation is from the court records or based on plaintiff response.

Descriptive and Chi-Square analyses were selected as appropriate. A portion of this research is reported without the benefits of statistical tests of significance. The small number of part-time business plaintiffs and full-time business plaintiffs relative to individual plaintiffs sometimes hampered the use of chi-square tests of independence among the three types of litigants and their cases. To overcome the problem of expected frequencies less than five in 20 percent or more of the cells in some tables, further collapsing of categories could have been made. Considering the nature of this study, the desire to retain more detailed information (especially with respect to full-time and part-time business cases) was believed to outweigh the desire for tests of statistical significance among the three groups. When Chi-square analysis was used, a .05 level of probability was selected as the criterion for a statistically significant difference.

Limitations

Since the rules governing the Small Claims Courts of Missouri are different from those governing other small claims courts, it cannot be assumed that cases are filed and disposed of in a similar manner in other courts. In addition, the information and assistance provided by a court system may vary somewhat with different personnel. As a result, the generalizations of this study's conclusions may be limited. However, to the extent other courts and their litigants are similar to this particular court's processes and its litigants, the results do provide more broadly representative insights into the small claims process and experiences of plaintiffs.

FINDINGS

PLAINTIFF'S LEGAL ASSISTANCE

The type of legal assistance a plaintiff receives in a small claims case may vary greatly. For some cases, legal assistance is no more than a brief phone call to an attorney asking for advice on whether a case is worth pursuing. For others, the plaintiff's lawyer handles the entire process from the filing of the small claims petition through the collection of the judgment from an

TABLE 2: Type of Legal Assistance Plaintiffs Received from an Attorney[1]

	Type of Plaintiff			
	Individual (n = 134)	Part-Time Business (n = 39)	Full-Time Business (n = 106)	Total Cases w/ Plaintiff Responding (n = 279)
Type of Legal Assistance	%	%	%	%
No assistance received	57	67	85	69
Legal assistance received[2]	43	33	15	31
Pre-trial advice	31	28	6	21
Tried to settle before trial	15	8	9	12
Court petition filed	1	0	3	2
Represented at trial	4	0	5	4
Collection information	3	0	1	2
Handled post-trial action	4	3	3	4

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[1] Chi-square analysis based on case totals with legal assistance received and no legal assistance received: $x^2 = 22.013$, df = 2, prob. = .001, v = .281

[2] Totals will not equal sums of subcategories due to multiple responses.

uncooperative judgment debtor. Litigants filing claims were asked what type of legal assistance they received during the pursuit of their small claims case. Among the cases with a plaintiff who responded, 31 percent had a plaintiff who had received some form of legal help (Table 2).

Cases filed by individuals were those which most frequently had a plaintiff advised or represented by an attorney (43 percent). Of the cases pursued by a part-time business person, 33 percent had a plaintiff who had received legal help. Cases filed by full-time business persons were those least likely to involve legal counsel, with only 15 percent of these plaintiffs reporting such assistance. The difference in the proportion of cases with a plaintiff who did and did not receive assistance from an attorney was significantly different from zero beyond the .001 level.

The most frequently identified type of assistance used by the small claims respondent plaintiffs in their cases was pre-trial legal advice (21 percent). Frequently, plaintiffs explained that an attorney gave them information regarding their rights in the dispute and referred them to the small claims court as a low-cost means of resolution. For some plaintiffs, the attorney provided helpful tips on how to proceed before and during the hearing. Individual plaintiffs stated that in close to one-third (31 percent) of their cases, they requested legal advice from an attorney prior to trial. A somewhat lower 28 percent of part-time business plaintiffs received similar advice for their cases. Just 6 percent of the full-time business plaintiff's cases had a plaintiff who sought out legal advice prior to the trial. This finding is consistent with other analyses which found that full-time businesses were more likely to have had a prior experience in small claims court and therefore, would be more familiar with court proceedings.

To motivate defendants to resolve a dispute before it must be presented to a judge, some plaintiffs' attorneys contacted the defendant or the defendant's representative in an attempt to achieve a pre-trial settlement. In 12 percent of the cases filed, an attorney took some action (in many cases, sending a letter) to encourage a pre-trial settlement.

Consistent with the procedural goals of the small claims court, only 2 percent of the small claims cases examined were filed by an attorney. Only 4 percent of the cases had plaintiffs who reported their case went to trial and they were represented.

Very few litigants used the services of an attorney after judgment was rendered. Just 2 percent received information on how to collect their judgment and 4 percent reported an attorney handled a post-trial action (collection or appeal). The majority of the cases in which the plaintiff used legal counsel in this latter stage were brought to court by individual litigants.

Critics of the small claims process in other jurisdictions have lamented that unrepresented litigants who have been very successful pursuing their action through the small claims court find themselves confronted after their small claims trial with an appeal and a complicated higher court procedure that makes hiring an attorney a necessity. As a result, it was quite unexpected to discover that only two of the thirteen plaintiffs who won and then were faced with a post-trial action chose to use an attorney. Two

TABLE 3: Plaintiff Assessment of Legal Assistance Provided During the Small Claims Experience, Given Legal Assistance Was Received[a]

	Type of Plaintiff			
	Individual (n = 53)	Part-Time Business (n = 13)	Full-Time Business (n = 15)	Total Cases w/ Plaintiff Responding (n = 81)
Assessment of Legal Assistance	%	%	%	%
Hurt case	6	8	0	5
Helped case	47	38	47	46
No influence	47	54	53	49

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[a] Chi-square analysis based on cases with plaintiffs who assessed the legal assistance as helping their case or having no influence: $x^2 = .284$, df = 2, prob. = .868, v = .061

cases were settled before going to court but only one decision was actually overturned in the higher court.

PLAINTIFF ASSESSMENT OF LEGAL ASSISTANCE RECEIVED

Litigants who received some form of legal assistance during the pursuit of their small claims dispute were asked to evaluate how they felt the legal assistance that they had received during their experience had affected the resolution of their case (Table 3). Nearly one-half (49 percent) of the respondent plaintiffs who received legal assistance agreed with the results of the multivariate analysis that plaintiff legal advice or representation had no influence on the outcome of their case. However, an almost equal proportion of respondent plaintiffs (46 percent) stated they felt the attorney had been beneficial.

In response to a follow-up open-ended question, more than half of those who had perceived the attorney as beneficial explained that the information they had received regarding their rights and/or court procedures had been an advantage in the pursuit of the case. Other much less frequent explanations included the attorney's skills and knowledge in the courtroom, the time the attorney saved the represented litigant, and the extra threat to the opposing party offered by an attorney.

A very small minority (5 percent) felt the legal assistance they had received actually hurt their case. Cases with plaintiffs who stated they believed the attorney had no influence or had positively influenced their case were isolated to examine if any relationship exists between these two assessments and the three types of plaintiffs who responded. The differences between the three types of cases were found to not be statistically significant.

Plaintiffs who received help from an attorney in the pursuit of a case were also asked if they believed they could have handled their claim without the help of an attorney (Table 4). A majority (71 percent) stated they believed they could have handled the case on their own. Individuals and full-time business persons were very similar in their responses; in 68 percent of the cases filed by an individual litigant and 69 percent of the cases filed by full-time business litigants, the plaintiffs expressed the opinion that, in retrospect, no attorney was needed. Part-time business persons appear more confident than the other two groups; these plaintiffs reported they did not need legal assistance in 85 percent of their cases. Of course, the type and complexity of the cases they pursued could also be a critical factor in this difference.

PLAINTIFF ASSESSMENT OF EFFECT OF DEFENDANT'S LEGAL REPRESENTATION ON CASE

The defendant's use of an attorney can also influence the plaintiff's small claims experience. In the review of literature, some findings suggest that defendant's representation affects the judge's decision. For each case in which the plaintiff reported the defendant in their case had received assistance from an attorney, plaintiffs were asked to assess whether the defendant's attorney influenced the dispute (Table 5). The majority (58 percent) of the plaintiffs who faced a represented defendant felt the attorney had no effect on the proceedings or the outcome; the remaining 42 percent felt the lawyer for the defense had a negative effect in terms of the plaintiff's interest. Individuals (49 percent) were those plaintiffs most frequently reporting a negative affect. On the surface, this finding might seem to contradict the findings of the multivariate analysis which suggests defendant representation by an attorney has no effect or may even improve the trial

TABLE 4: Plaintiff Retrospective Assessment of Ability to Handle Small Claims Case Without Legal Assistance, Given Legal Assistance Received[1]

Assessment of Ability to Handle Case	Individual (n = 50) %	Part-Time Business (n = 13) %	Full-Time Business (n = 16) %	Total Cases w/ Plaintiff Responding (n = 79) %
	Type of Plaintiff			
No attorney needed	68	85	69	71
Attorney needed	32	15	31	29

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[1] A chi-square test of independence among the three types of litigants was deemed inapropriate due to the small number of part-time and full-time business persons.

TABLE 5: Plaintiff Assessment of Whether Defendant's Attorney Caused Plaintiff Difficulty in Pursuit of Case, Given Plaintiff Was Aware Defendant Received Legal Assistance from an Attorney[1]

Assessment of How Defendant's Attorney Affected Case	Individual (n = 41) %	Part-Time Business (n = 8) %	Full-Time Business (n = 13) %	Total Cases w/ Plaintiff Responding (n = 62) %
	Type of Plaintiff			
No effect	51	75	69	58
Negative effect	49	25	31	42

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[1] A chi-square test of independence among the three types of litigants was deemed inappropriate due to the small number of part-time and full-time business persons.

outcome for the plaintiff. In responding to an open-ended question as to how the opposition's attorney negatively affected the case, a common complaint was that the defendant's use of a attorney led to a more formal, more complicated, more technical and less balanced process.

CONCLUSION AND RECOMMENDATIONS

Do attorneys help or hinder one's chances of success in the small claims process? The answer--it appears, on most occasions, is neither! The frequent lack of a significant influence by litigant use of legal advice and representation reported in the empirical literature is intriguing. The findings especially those in more recent years, suggest that when various socioeconomic characteristics of the plaintiff and defendant are controlled, the skills and knowledge of an attorney offer little advantage to the litigant who has received legal assistance. And surprisingly, in those rare situations when legal assistance is influential it may help the opposition more than the litigant being represented. For example, plaintiff pre-trial advice was found to be a negative predictor for both the likelihood of plaintiff success in court and full collection of the favorable judgment after a trial.

Plaintiff assessment of the influence of attorneys in one Missouri Small Claims Court lends additional support to these findings. Of those plaintiffs who received legal assistance, nearly half (49 percent) reported the assistance they received had no impact on their case and nearly three-fourths (71 percent) felt they could have handled the case on their own. When plaintiffs reported the assistance they received from an attorney helped their case, information on their rights and/or court procedures was by far the most common advantage noted. The focus was almost always on the process of pursuing the case, not the decision of the judge.

Litigant comments suggest a similar focus when the influence of the opposition's legal assistance was assessed. The defendant's assistance from an attorney have frustrated the court's goals of maintaining informal proceedings and added to the discomfort already felt by the plaintiff unaccustomed to court proceedings, defendant legal assistance was rarely viewed as having an impact on the final outcome of the small claims case.

For small claims cases in general, these findings suggest that the time, money and effort spent pursuing the advice or assistance of an attorney rarely affects the outcome. If small claims litigants are willing to commit the effort and feel comfortable presenting a case on their own, they might as well handle the case themselves.

In order for future small claims litigants and potential litigants to make more informed decisions regarding whether or not to seek out the assistance of an attorney for their specific case, there is a need for extensions of the research on this issue. Several areas for future research are suggested by this examination. First, the exploratory nature of the Syracuse Court and the Boone County Court call for further analysis to confirm these general findings.

Research is also needed which explores the effect of attorneys on specific types of cases. To this point in time, scant attention has been paid to the types of cases being pursued in small claims court. It seems plausible that since differences exist in the complexity of small claims cases, the level of skill and knowledge needed to support claims will also vary. Are claims involving fraud, negligence or willful wrongdoing more difficult to support than those for the non-payment of goods and services? Could these former cases demand the special skills and knowledge of an attorney? Until these questions are answered, it may be wise to encourage litigants to see an attorney when an issue is particularly complex.

And since our judicial system should be equally concerned about fairness to the defendant as to the plaintiff, there is a need to pay particular attention to the plaintiff's opposing party in future research. It would be interesting to survey the defendants to gather their perspectives and assessment of the impact of attorneys in the small claims process.

REFERENCES

Bonner, Patricia A. (1985). "The Small Claims Collection Experience and Plaintiff Assessment of the Small Claims Process--An Empirical Study of the Small Claims Court in Boone County, Missouri." M.S. thesis, University of Missouri-Columbia.

________________ (1987). "The Small Claims Pre-Trial and Trial Experience with Plaintiff Recommendations for Improvement--An Empirical Study of the Small Claims Court in Boone County, Missouri." Ph.D. dissertation, University of Missouri-Columbia.

Bradley, Julie; Sherman, Barbara; and Bryant, W. Keith. (1982). "Winning in Small Claims Court: An Empirical Analysis," Journal of Consumer Affairs. 16 (No. 1; Summer): 112-29.

Downing, Mark S.; Peters, J. Douglas; and Sankin, Alan R. (1975). "The Toledo Small Claims Court: Part I," University of Toledo Law Review. 6 (Winter): 397-411.

Jones, J.P. (1974). "Practical Results of Court Reforms: The Politics of Small Claims Courts." An unpublished paper on file with Law and Society Review cited by Yngvesson and Hennesey on page 250.

Purdum, Elizabeth (1981). "Examining the Claims of a Small Claims Court: A Florida Case Study," Judicature. 65 (No. 1; June-July): 25-37.

Steadman, John M. and Rosenstein, Richard S. (1973). "'Small Claims' Consumer Plaintiffs in the Philadelphia Municipal Court: An Empirical Study," University of Pennsylvania Law Review. 121 (June): 1309-61.

Weller, Steve; Ruhnka, John C.; Martin, John. (1977). "Success in Small Claims: Is a Lawyer Necessary?" Judicature. 61 (No. 4; October): 176-84.

Yngvesson, Barbara and Hennesey, Patricia. (1975). "Small Claims, Complex Disputes: A Review of the Small Claims Literature," Law and Society Review. 9 (Winter): 219-375.

The Housing Consumer, Social Justice and the New Law Against Familial Status Discrimination: A Discussion

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ABSTRACT

This paper looks at the political, social and economic aspects of familial status discrimination with regard to housing in light of the Fair Housing Amendments Act of 1988. It examines the costs and benefits of discriminating against families with children.

Introduction

Discrimination as used herein means that "equals are treated unequally or that unequals are treated equally" (Sharp, Register and Leftwich 1988, p.290). Economic discrimination can occur in the input market or the product market. Discrimination occurs in the input market (labor) market when individuals are paid differently for equal productivity or are paid the same for unequal productivity. In either case, an individual's income is not based on output, but rather, on some factor unrelated to productivity, such as race, gender or age. In the labor market where discrimination does not exist, individuals who produce an identical output would secure an identical income.

Discrimination often occurs in the product market when different individuals are charged different prices for the same product. In a market without discrimination, price is the rationing agent. The individual who is willing and able to pay the market price, procures the product. Conversely, the individual unable or unwilling to pay does not get the product. In housing discrimination, however, the price is often not the rationing agent. The price of rent is identical for everyone, but some individuals (who are able and willing to pay), by virtue of personal or familial characteristics, are denied access to equal housing. Specifically, households have been denied their particular housing preferences due to the fact that they have children. Thus, this behavior of landlords constitutes economic discrimination: equals, in terms of willingness and ability to pay, are treated unequally.

On September 13, the Fair Housing Amendments Act of 1988 (FHAA) was signed into law (Fair Housing Amendment Act of 1988). This was meant by the U.S. legislature to address the problem of economic discrimination with regard to housing. The FHAA is the first attempt to strengthen the enforcement provisions of the Fair Housing Act of 1968. Handicap and familial status were added to the categories of discrimination already prohibited: race, color, religion, sex, and national origin (Fair Housing Act 1968). The ramifications for and against housing discrimination on the basis of family status are the focus of this paper. First, the new law will be examined. Second, the economic costs and benefits of discrimination against families with children will be reviewed. Third, social and political justice for families with children, both traditional and vulnerable, will be reviewed.

The New Fair Housing Amendments Act of 1988

The FHAA marks the first time that "familial status" has gained protection under any federal laws that protect civil rights. Studies have found that up to 75% of the U.S. rental housing has excluded prospective tenants who have children (Marans and Colten 1980). The severe housing accessibility problems of families with children do not so much result from landlords who are malicious, as from market forces resulting from housing practices that reflect changing demographics, increasing housing costs, and a shortage of housing (Fair Housing Amendments Act of 1987:Hearings).

The 1987 Congressional hearings on fair housing identified a number of trends in the family housing market. The increasing cost of home ownership has pushed more and more families into the rental market. The demographic trends run counter to the market of families with children. New households reflect the higher proportion of singles and childless couples. The housing industry, responding to the "adult" market, has built apartments with fewer bedrooms and less square footage. Even if affordable, most of the new housing is not being geared to families with several children.

Tenant selection prerogatives have resulted in a variety of practices that affect accessibility of housing for families with children. A HUD national survey (Marans and Colten 1980) found that 25% of all rental units overtly operated under a "no children" or "adults only" policy. An additional 50% of all units had restrictive policies that would preclude many families. Restrictions included limits on the number of children in a unit such as one child per bedroom. Other restrictions involved the availability of only certain units or sections of a complex for families, minimum child ages, maximum child ages, and rules against children of different sexes who share the same bedroom. Another practice was to impose a surcharge for each child.

Discriminatory practices affecting families with children are explainable both economically and socially. Too often, an industry such as housing neglects the social dimension of the problem. Since the households of racial and ethnic minorities statistically have more children than white families, the political dimension, specifically that of racism, is also present. Child restriction policies therefore have a disproportionately large impact on these groups because "adults only" housing is concentrated in newer developments in predominantly suburban areas. Thus, traditional families with children are excluded along with vulnerable families with children: minority families, young families, single-parent families, and poor families. Thus, the politics of intervention, reflected in the FHAA, protect the civil rights of all families with children from "familial status" discrimination.

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The meaning of family in the FHAA is very broad. The definition reads as follows:

> (k) "Familial status" means one or more individuals (who have not attained the age of 18 years) being domiciled with--
> (1) a parent or another person having legal custody of such individual or individuals; or
> (2) the designee of such parent or other person having such custody, with the written permission of such parent or other person (Fair Housing Amendments Act of 1988).

While the definition may be read literally so as to emphasize legal custody and written permission as qualifiers of other persons than parents, the "written permission" alternative would be a rather simple way to legitimize various informal living arrangements, such as a live-in grandparent who has assumed the role of the parent, for purpose of FHAA protection (Fair Housing Amendments Act of 1988). The definition, thus, goes beyond the concept of the "traditional family".

The FHAA definition of familial status is supplemented by the following addendum:

The protections afforded against discrimination on the basis of familial status shall apply to any person who is pregnant or is in the process of securing legal custody of any individual who has not attained the age of 18 years (Fair Housing Amendments Act of 1988).

The FHAA defers to local and State occupancy regulations with the following proviso: "Nothing in this subchapter limits the applicability of any reasonable local, State, or Federal restrictions regarding the maximum number of occupants permitted to occupy a dwelling" (Fair Housing Amendments Act of 1988). The provision recognizes some local regulatory prerogatives as to how many persons can occupy a dwelling unit but does not use local occupancy regulations to define the meaning of "family" to limit who can occupy a dwelling. Although such restrictive definitions are common at the local level, the FHAA's definition of familial status will control in all cases, because it preempts local standards, but not all common law qualifications for housing. Thus, the target for the law is the "adult" housing market which no longer can discriminate against families, who are married or unmarried, with children.

Some apartment managements still advertise "all adult," but most references to "adult" are more discrete. As a result of the FHAA, "adult only" or "no children" advertisements become as legally discriminatory as "no blacks." The Fair Housing Act, before FHAA, made it unlawful to indicate in any advertisement of a dwelling any preference, limitation, or discrimination based on race, color, religion, sex, or national origin (Fair Housing Act 1968). "Familial status" (and "handicap") are simply added by FHAA as additional forms of prohibited discrimination and thus have an equal status in terms of legal protection.

Real estate interests sought some guarantee in FHAA that developers or landlords could adopt a plan of occupancy that would allocate units within a development as suitable for families with children, while other areas would be limited to families without children or single adults. When familial status was grafted onto the existing prohibitions, that arrangement was difficult to accommodate. It was as difficult as offering housing for blacks in one part of the apartment complex and whites in another part. It is thus unlawful under the Fair Housing Act "to discriminate against any person in the terms, conditions, or privileges of sale or rental of a dwelling, or in the provision of services or facilities in connection therewith, because of race, color, religion, sex, [familial status] or national origin" (Fair Housing Amendments Act of 1988). The courts will eventually resolve the legality of apartment development rules and policies that make further distinctions based on familial status since common law landlord prerogatives still remain untouched by FHAA. They must be exercised in an equal manner, however. Thus, families with children may be rejected if they are not financially qualified. Also, families with children that are determined to be undesirable in terms of cleanliness, care for property, or creation of a nuisance, may be rejected. Whether a landlord can require a larger deposit because of children, add a surcharge to the rent, or limit a two-bedroom dwelling to two children are matters for further legal determination.

Economic Reasons For and Against Discrimination Against Families with Children

The housing industry supports the "adult market" for various economic reasons. Recent demographic phenomena, such as the rise of the yuppie population which is relatively affluent, show that some tastes run counter to the family market. The housing industry has targeted this yuppie population because it has money. The yuppie lifestyle reflects a new freedom from children. Work satisfaction has replaced the satisfactions of home life. Life in the fast lane does not require nor want children. Less space is necessary for living. Therefore, the housing industry emphasizes the size, style and "aesthetic" factors that reflect this new adult mindset. Children would require more room, more playgrounds, more living space. The housing industry recognizes only two alternatives: provide for tenants with children or tenants without children. There are market forces that have persuaded the housing industry to favor the childless adult market because this group has more money and can afford to spend more on housing. These forces provide strong economic incentive to discriminate on the basis of family status.

Other relatively recent demographic occurrences serve as a basis for the housing industry to support the "adult market." Recent trends indicate that the average size of households is shrinking. In 1988 the average number of persons per household was 2.64 while in 1970 it was 3.14 (U.S. Dept. of Commerce 1988a, p.5). One reason for this decrease is the fact that families have fewer children. In 1988 the average number of persons per household under age 18 was 0.70; in 1970 it was 1.09 (U.S. Dept. of Commerce 1988a, p.5). Another indication of the trend toward smaller households is that in 1988, only 10% of all married-couple households had three or more children under age 18 while in 1970 nearly 21% had three or more children (U.S. Dept. of Commerce 1988a, p.4). Based on the above statistics, from the individual landlord's perspective, there are substantial financial benefits to discriminating against families with children. With recent trends to limit the size and formation of households, singles and younger married couples become the preferred market by landlords. By catering to this market, landlords can increase their incomes substantially either because households in this market are able to pay higher prices for housing than are persons of other household statuses or, because landlords can reduce costs or increase productivity. Smaller housing units can be provided to accommodate these smaller households. Specific restrictions on the number of persons per rental unit allow the landlord to discriminate against children. Rents can be increased on the assumption that smaller households have a greater ability to pay higher rents. Thus, the individual landlord benefits from discrimination against families with children.

The phenomenon of people waiting longer to marry also contributes to the increased number of smaller households, which financially benefits the landlord. The median age at first marriage in 1970 was 23.2 for males and 20.8 for females; in 1988 the ages were 25.9 and 23.6, respectively (U.S. Dept. of Commerce 1988a, p.7). Single persons do not require large housing units. Presumably they can afford to allocate more of their income to housing as they theoretically have no family obligations. Furthermore, these singles desire a lifestyle which often differs from the "family-oriented" lifestyle. The social amenities that "adults" enjoy differ. Landlords who restrict units to "adults only" can provide these amenities for an increased rent. The landlord, thus realizes economic benefits.

In addition, further economic benefits for the landlord can be realized due to the increased number of households because of the postponement of first marriages and the increased number of marriages which result in breakups. An increased number of households implies a need for an increased number of housing units. Due to lags in construction which occur in the housing industry and some housing units being restricted to a particular group, there is a shortage of available rental units which results in increased prices. Those individuals or families who are fortunate enough to secure housing will pay an inflated price for it. This inflated price now becomes the market value. The result is an economic benefit for the landlord.

The potential for economic benefits for the landlord can be further explained by looking at housing cost and income trends. Housing costs have increased dramatically over recent years. The housing price index (1982=100) for new one-family houses sold (including value of the lot) was 54.8 in 1976 and 113.6 in 1986. This is an increase of about 107% (U.S. Dept. of Commerce 1989b, p.54). According to the Consumer Price Index (CPI), rent increased nearly 104% from 1975 to 1986 (1967=100) (U.S. Dept. of Commerce 1988b, p.451). (The overall CPI increased slightly less than 93% during this same period.) While median family income for all families increased about 104% from 1976 to 1986, (U.S. Dept. of Commerce 1989a, p.445 and 1987b, p.2), the picture is not so bright for some family types. The median income for married couples (1986) was $32,805 while that for female householders, no husband present was only $13,647. Male householders with no wife present realized a median income of $24,962 in 1986 (U.S. Dept. of Commerce 1987a, p.12). Female householders have the lowest median income and thus they cannot afford the price increases in the housing market. The numbers demonstrate that discrimination against single females with children (the case for many female householders, no husband present) would be profitable for the landlord. Landlords who rent only to married couples could increase the rent level (due to increased ability to pay by married couples because of fewer family obligations) and, thus, increase their incomes.

Although clearly there are individual benefits to be gained by the landlord who discriminates against families with children, there are equally clear and more compelling economic reasons not to discriminate. There are some important costs that are associated with the practice of family status discrimination. However, whereas the benefits tend to be private (or individual) in nature, the costs are often social in nature.

The social costs required a social solution, such as a law. This was the FHAA. The 1988 FHAA policy establishes a strategy for promoting families. Since the family is the basic economic as well as social unit of society, it follows that efforts should be taken to secure its existence. If families (with children) are continually discriminated against with respect to housing, it is possible that households will opt for fewer or no children in the future. Currently, there is concern that in the future there will be inadequate manpower to continue scientific and economic endeavors. If there are more disincentives to having children, the future of our nation could be at greater risk than it is today.

Furthermore, there is considerable value to be realized in the consuming activities of children. In a review of the literature on the subject of children as consumers, McNeal and McDaniel reported that "...children from approximately age four and on are consumers. From an economic standpoint, they have desires and the ability to buy" (McNeal and McDaniel 1982, p.400). The annual expenditures by this group (children ages 4-12) of its own money, thus, is between two and three billion dollars--enough for many businesses to consider it a market" (McNeal and McDaniel 1982, p.401). This does not include adult money spent on children. Eliminating children from communities would, in many cases, substantially alter the nature of the economic activity of those communities.

It is also the case that economic disadvantages for tenants exist when discrimination occurs. When one group is excluded from part of any market, that group must crowd into the remaining components of that market. In the housing market, this would mean the remaining housing units. There are thus some economic costs of housing discrimination which can be illustrated by use of the crowding model (Fletcher 1979). In a free market where price is the rationing factor, there exists an equilibrium rent, r in Figure 1, and an equilibrium quantity of rental units, u in Figure 1. As noted in Figure 1 by the nearly vertical supply curve, supply is relatively inelastic in the short run. That is, in the short run, it is difficult to add housing units.

Figure 1 Open Housing

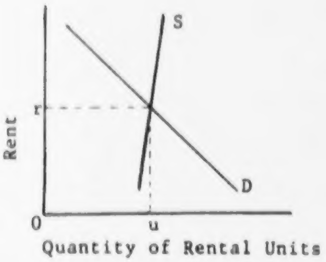
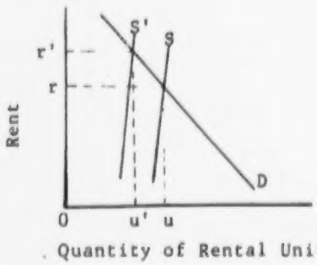
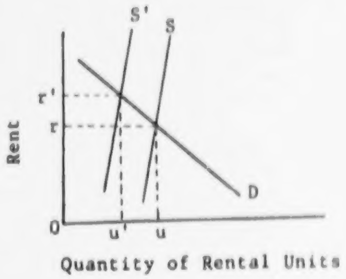


Figure 2 Housing Available to Households with Children After Exclusion



In a market where discrimination exists, the supply of housing available to members of the excluded group decreases, as illustrated in Figure 2 by the shift in supply from s to s'. This shift prompts an increase in equilibrium price (rent) from r to r', in Figure 2, for the available units. Households with children must crowd into housing units which are available to them. Landlords of these units become price makers by virtue of the reduced supply, the relatively inelastic supply and, the necessary nature of housing. Landlords who practice discrimination will promote their rental units as quieter, better maintained, and more adult-oriented. Because of these amenities, along with fewer units available which can "boast" about the fact that there are no children, rents will increase (Figure 3). Since it is assumed that households without children would not want to rent in units accepting children, Figure 3 reflects a decrease in the supply of rental units (from the total available) for households without children. Thus, in markets where discrimination exists, all tenants pay higher rents.

Figure 3 Housing Desirable to Households Without Children



Although a landlord's income increases with little or no increase in costs, from a community standpoint, there is likely to be an economic loss. Given the budget constraint of any particular household, when more money is spent on one good or service, less money is available for other goods and services. The opportunity cost of higher rents in a community is less income for the butcher, the theater owner or some other community enterprise. Analogous to Thurow's contention that "..discrimination causes a large reduction in the potential level of output of the American economy" (referring to labor market practices against blacks) (Thurow 1969, p.158), residential discrimination reduces the amount of economic input for the community. The costs to society will likely supersede the gains for individual landlords. Furthermore, if this model is valid, there exists a misallocation of resources. The price (rent) has increased while it is not clear that marginal cost has changed under the practice of discrimination.

Some would contend that children are noisier, dirtier, require more facilities to accommodate their needs and generally contribute to the deterioration of a building more than do young adults or households without children. They would say that it costs more to operate a building which permits children. Consumer resources that are allocated to paying housing prices which do not reflect marginal cost are allocated in a manner similar to resources which are misallocated to purchasing monopoly services. "Too little is produced of the monopolized good. Society is less well off...than it could be" (Mansfield 1989, p.506).

The next section will discuss the social and political reasons for discrimination, focusing on equal economic opportunity which ought to exist, as the FHAA argues, for adults and families with children.

Political and Social Justice for Families with Children

The political and social reasons for discrimination against families with children are the same as reasons identified, such as race or sex, to discriminate against any particular class of people identified in the FHAA. There are, however, differences between traditional reasons not to discriminate and the kind of discrimination based on family status. Traditional political reasons against discrimination have justified constitutional as well as legislative restraints to protect special groups of people. The reasons for protection are triggered when there are unfair prejudice and false stereotypes that are no longer relevant to the political process. Discrimination against women in the job market rests on unfair prejudice. Gender is not relevant to most jobs. False stereotypes, such as the belief that women are poorer decisionmakers than men, is a gender difference that has no scientific justification as a sex difference (Powell 1988).

The traditional groups accorded the status of suspect classes reflected in the earlier Fair Housing Act, race, color, religion, sex and national origin, are there for clear reasons. One reason is that an immutable trait is a characteristic over which one has no control. Since it is not voluntary, one is not responsible for it, and thus discrimination has been viewed as politically unfair. Race or gender is not voluntary. People, however, do have some control over childbearing or child-rearing, so people do not immutably have children.

Another reason for discrimination emphasizes a history of unequal treatment toward a class which is based upon an irrelevant, incorrect or false stereotype. Those who have nationalities other than United States or a different religion or color have been excluded from owning land. The politically powerless have often been those who have been denied civil rights. Thus unfair prejudice or false stereotypes with no basis in fact have produced constitutional and legislative protections for special groups of people. People with children have been subject to stereotypes and prejudice.

Should families with children be protected groups? Historically families with children were not politically powerless or subject to a history of unequal treatment. In fact, they had been favored, given our traditional family values. Only recently has there been a shift toward the "adult" market. Thus the traditional reasons to protect special groups do not apply to the protection of families with children.

Since the housing industry has based its attitudes on false assumptions about families with children, the FHAA has promoted equal opportunity for all consumers. The fact that a family has children does not mean that they are parasites, and therefore need special help. The new law does not require that special help. Thus the traditional family with children that can pay wants what adults want. They want distributive justice, i.e. a fair distribution of rental property based upon affordability. They want an equal opportunity, equal access to affordable housing. They want the happiness of living where they can afford it. Finally, they want to not be stigmatized but given equal respect. They want the dignity and respect to be treated as equals in the housing market.

The tough cases, however, do not concern the traditional family with children who can afford the rent, but rather the vulnerable family with children. These include minority families, young families, single-parent families or poor families. The vulnerable family needs the protection of civil rights laws to guarantee equal opportunity because they are often objects of unfair prejudice or victims of false stereotypes. Minority families with children are already protected by the FHAA, but they may or may not be able to afford housing. The fact of being black or Hispanic, however, does not justify discrimination. Race is irrelevant to equal opportunity. Single-parent families similarly are also stereotyped. Society has beliefs about divorced parents who have children. The single head-of-household may or may not have a low income or may or may not deviate from a conservative lifestyle. Parents who are not married are not necessarily poor tenants. These attitudes of society are out of touch with reality. Young families with children either can afford the rental property or they cannot. Being young is not a relevant difference to justify discrimination. Many young families make moves based on the opportunities for their children, e.g. schools. Why should those who can afford housing be denied that opportunity?

Finally, the poor comprise a major group of vulnerable families with children. Since they cannot afford the rental housing, they can be denied equal opportunity or the same access as those who can afford the rental property. Poor families are a major concern. This could be addressed as a matter of social justice through public housing. No doubt their problems should be addressed, but this is not the issue in familial status discrimination. That issue is equal opportunity based upon income. Irrelevant factors that deny the family with children the opportunity to be consumers are the basis of the new law.

Conclusions

Families with children are not parasites, they belong on an equal footing with other housing consumers. They want equal access to rental property. The new law addresses the issue of social justice because equal cases are treated equally unless there is a relevant difference. Children are not a relevant difference as, for example, poverty is. The FHAA guarantees equal opportunity for the adult without children as well as the family with children. The FHAA assumes that it is good business for economic reasons as well as social and political reasons not to discriminate on the basis of family status.

REFERENCES

Fair Housing Act (1968), (Pub. Law 90-284) 82 Stat. 81+.

Fair Housing Amendments Act of 1988, (Pub. Law 100-430) 42 U.S.C. Section 3601 et seq., 102 Stat. 1619+.

Fair Housing Amendments Act of 1987: Hearings on S.558 Before the Subcommittee on the Constitution of the Senate Committee on the Judiciary, 100th Congress, 1st Session, Serial No. J-100-12 (1987); Fair Housing Amendments Act of 1987: Hearings on H.R.1158 Before the Subcommittee on Civil and Constitutional Rights of the House of Representatives committee on the Judiciary, 100th Congress, 1st Session, Serial No. 9 (1987).

Fletcher, Max. E. (1979). Economics and Social Problems, Boston, Mass.: Houghton Mifflin Company.

Mansfield, Edwin (1989). Economics, New York: W.W. Norton & Company.

Marans, R. and M. Colten (1980). Measuring Restrictive Rental Practices Affecting Families with Children: A National Survey, Office of Policy Planning and Research, Department of Housing and Urban Development, Washington, D.C.: U.S. Government Printing Office.

McNeal, James U. and Stephen W. McDaniel (1982). Consumer Behavior: Classical and Contemporary Dimensions, Boston, Mass.: Little, Brown and Company.

Powell, Wm. (1988). Women and Men in Management, Beverly Hills, California: Sage Publications, Inc.

Sharp, Ansel M., Charles A. Register and Richard H. Leftwich (1988). Economics of Social Issues, Plano, Texas: Business Publications, Inc.

Thurow, Lester C. (1969). Poverty and Discrimination, Washington, D.C.: The Brookings Institution.

U.S. Department of Commerce, Bureau of the Census (1989a). Statistical Abstract of the United States: 1989. Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Commerce, Bureau of the Census and U.S. Department of Housing and Urban Development (1989b). Characteristics of New Housing: 1988. Current Construction Reports C25-88-13, Washington, D.C.: Government Printing Office.

U.S. Department of Commerce, Bureau of the Census (1988a). Households, Families, Marital Status and Living Arrangements: March 1988, Advance Report. Current Population Reports. Population Characteristics Series P-20, No. 432, Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Commerce, Bureau of the Census (1988b). Statistical Abstract of the United States: 1988. Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Commerce, Bureau of the Census (1987a). Money Income and Poverty Status in the United States: 1987. Current Population Reports. Consumer Income Series P-60, No. 161, Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Commerce, Bureau of the Census (1987b). Money Income of Households, Families, and Persons in the United States: 1987. Current Population Reports. Consumer Income Series P-60, No. 162, Washington, D.C.: U.S. Government Printing Office.

THE EFFECTS OF BACKGROUND CHARACTERISTICS OF JUDGES AND ATTORNEYS ON DECISION MAKING IN DOMESTIC RELATIONS COURT: AN ANALYSIS OF CHILD SUPPORT AWARDS

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Uncertainty surrounding judicial decision making prompted Congress to mandate state-specific child support guidelines by October 1, 1987. This study examined the effects of background characteristics of judges and attorneys on child support decisions in Franklin County, Ohio, with respect to adoption of the 1987 Ohio child support guidelines. Attorneys were found to be reluctant to win child support awards for their clients. Judicial integrity was not important in setting award amounts.

INTRODUCTION

There are many uncertainties surrounding judicial decision making. One uncertainty which is increasingly receiving public attention is the awarding of child support. In 1987 the Bureau of the Census reported that a quarter of eligible mothers were not awarded child support. And when mothers were awarded child support payments, the mean amount of income received was only $2,597 per year (United States Bureau of the Census, 1987). Recognizing the fact that personal attributes of judicial personnel could have an influence on decision making, Congress in 1984 mandated that states adopt state-specific child support guidelines by October 1, 1987. The intent of the child support guidelines is to make the decision making process surrounding the awarding of child support more predictable (Public Law 98-378, 1984).

The purpose of this study is to examine the effects of background characteristics of judges and attorneys on child support awards in Franklin County, Ohio, with respect to adoption of the 1987 Ohio child support guidelines (guidelines). This study does not compare frequency or amount of child support before and after the adoption of the guidelines, but it provides a picture at one point in time.

The 1987 Ohio child support guidelines are based on an income sharing model. The determination of child support is based upon parents' combined gross income. The parents' combined gross income is compared to a Schedule of Basic Child Support Obligations--a table which matches the combined gross income of parents with the number of children involved. Any child care related expenses are added to the basic child support obligation which comprises the total child support obligation. The obligation of each parent is computed by multiplying each parent's share of income by the total child support obligation (The Ohio Supreme Court Advisory Committee on Child Support Enforcement, 1987). Of the total number of children eligible for child support in 1987, the mean number was 1.6 (standard deviation=.805). The mean number of children receiving child support was 1.3 (standard deviation=.886) and the mean weekly dollars of support was 52.0 (standard deviation=36.209).

REVIEW OF LITERATURE

Theoretical models have viewed divorce as a bargaining process in which the outcome for an individual is a function of inputs to the marriage and characteristics of the legal system. Empirical studies of child support have modelled divorce as a function of either demographic characteristics or legal system characteristics, not both. In the case of child support, application of the principles of equity to the outcome/inputs relationship translates into a discussion of need and division of responsibility-to-pay in accordance with relative ability-to-pay. This relationship has received more attention in empirical studies and is discussed first. The influence of the legal system on child support has received less attention and is discussed second.

Most studies of need and ability to pay (Robins and Dickinson, 1984; Robins and Dickinson, 1985; Beller and Graham, 1985; Beller and Graham, 1986) have relied upon the 1979 and 1982 April Match Files of the Current Population Survey (CPS) data which contain predominantly socioeconomic information on child support. Socioeconomic characteristics such as race, number of children, age of children, age of parents, marital status, employment status of parents and education attainment of parents have all been used as measures of need and ability to pay.

Most studies of the legal system (Stafford, Jackson and Burgess, 1987; Stafford, Jackson and Burgess, 1989; Yee, 1979; White and Stone, 1976) have relied upon information from court cases to study the impact of the legal system on child support awards. Court case characteristics such as divorce or dissolution, whether plaintiff or defendant, number of pages filed, grounds for decree, divorce contested, attorney present, attorney's work status, month of decree and presiding judge have all been used as measures of the legal system.

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Assessment of Previous Work

Although considerable research effort has been directed toward analyzing the uncertainty surrounding child support, most of the variation remains unexplained. While studies have used appropriate, state-of-the-art statistical techniques, their chief problem has been specification error. The major specification error has been omission of important variables due to data sets used in the analysis.

The 1979 and 1982 CPS have been used extensively, as mentioned previously, but are not without shortcomings. Consequently, results from these April supplements must be examined with caution. Robins (1987) criticized these April supplements for failing to target the relevant child support population by including children of any age and possibly grandchildren. Other criticisms are that these April supplements lack critical information on the absent father's income, establishment of legal obligations and omit mothers less than 18 years of age.

A few empirical studies (Stafford, Jackson and Burgess, 1987; Stafford, Jackson and Burgess, 1989; Yee, 1979; White and Stone, 1976) have used information from court records to study characteristics of the legal system. Characteristics used were those 1) determined by legislative statutes or 2) those related to legal procedures and available in court records.

Attorneys were analyzed only by their presence or absence and public versus private status. Although women who are represented by an attorney have a significantly higher probability of being awarded child support (Stafford et al., 1989), women represented by an attorney are likely to get a lower child support order than women without an attorney present (Yee, 1979). However, Yee (1979) found that when a child support agreement was reached entirely by a district attorney and the respondent by signed stipulation, child support orders tended to be higher.

Since attorneys are an integral part of the legal process, essential information such as their ability, attitude toward the legal issue being debated (e.g. child support), and their guiding ideology need to be studied.

Judges were analyzed only by name, temporary versus permanent status on bench, specialized versus general nature of judicial responsibilities, and a particular judge's case load (intra-judge reliability). The presence of presiding judges increases the probability of receiving a child support award (Stafford et al., 1987). However, there is variation across the range of presiding judges in setting child support orders (Yee, 1979). Yee (1979) reports that the variation in child support orders is tremendous when looking at full time judges and judges with heavy caseloads.

Judges are a part of all divorce cases. However, in Ohio a divorce may be decreed in one of two ways: 1) filing for divorce or 2) filing for dissolution. A divorce may be contested or uncontested in court by one or both parties. A dissolution is simply an agreed upon signed stipulation--without the involvement of a judge--by both parties dissolving the marriage. However, whether a divorce or dissolution is sought judges approve all child support settlements. As such, essential information on judges' performance--ability, temperament, integrity and handling of cases--needs to be studied.

While these studies clearly established the influence of the legal system on child support awards, they have only touched the surface.

THEORETICAL MODEL

The theoretical model for this study is based upon a theory of equity. The major assumption underlying all discussions of equity has been that people assess their contributions and outcomes in a marital relationship to evaluate the 'fairness' of social ties (Keith and Schaefer, 1987).

Lane and Meese (1971) defined an equitable relationship as:

$$(1.1) \qquad \frac{\text{Inputs of party p}}{\text{Outcome of party p}} = \frac{\text{Inputs of party o}}{\text{Outcome of party o}}$$

Where:

Inputs = Assets/liabilities and/or qualities which are perceived to be a person's contribution to a relationship

Outcome = Rewards or punishments

In the context of a divorce when bargaining over a child support award, divorcing couples may perceive 'equity and fairness' in terms of whether the couples' perceived need for a child support award is in compliance with the couples' perceived ability to supply such an award. Consequently, in a divorce bargaining relationship involving a child support award, equation (1.1) can be more realistically expressed as:

$$(1.2) \qquad \text{Party p's DCS} = f\ (Ip,\ Io)$$

$$(1.3) \qquad \text{Party o's CSS} = f\ (Io,\ Ip)$$

Where:

DCS = Party p's demand for child support

CSS = Party o's supply of child support

Ip = Need for child support

Io = Ability to pay child support

Although divorcing couples engage in bargaining activities, such activities are constrained by the legal system. The legal system affects when a divorce may occur, how a divorce must be procured and what the consequences of divorce will be (Mnookin and Kornhauser, 1979). Since bargaining is contingent upon constraints imposed by the legal system, equations (1.2) and (1.3) may be combined and rewritten as:

(1.4) $$CSA = f\ (Io,\ Ip,\ S)$$

Where:
CSA = Child support award and amount
Io = Ability to pay child support
Ip = Need for child support
S = Legal system characteristics

While child support is a function of (Io), (Ip) and (S), the focus of this study is on a subset (S), legal system characteristics, i.e., judges and attorneys. The remainder of the function, (Io), (Ip) and (S), will be introduced and used as controls in the empirical child support award and amounts models.

DATA AND PROCEDURES

Data for this study comes from three sources. Two hundred and thirty-five October 1987 - March 1988 cases in Franklin County, Ohio Court of Domestic Relations were randomly selected. Randomization was accomplished through the use of a random digit table. Within the random sample of cases this analysis was limited to only cases involving minor children.

Court cases contained information on name(s) and age(s) of children; age of parents; income and employment status; name of attorney(s); name of presiding judge; date of marriage; date of filing and decree; all documents filed in the case such as motions, the separation agreement and decree. The decree specifies income (child support and alimony) and asset (disposition of residence and cash settlement) awards to both parties.

Questionnaires were mailed to a random sample of 350 central Ohio attorneys drawn from cases in Franklin County Court of Domestic Relations during 1987-88. One hundred and forty-seven questionnaires were returned in usable form.

Questionnaires provided information on 1) attorneys' ratings of Franklin County, Ohio domestic relations judges with respect to judges' temperament, integrity, courtroom management and legal ability; 2) attorneys' attitudes and experiences with the Ohio 1987 child support guidelines; 3) attorneys' perception of judges' use of the Ohio 1987 child support guidelines; 4) attorneys' legal practice; and 5) specific information on attorneys. For a discussion of the measurement of judicial performance, see appendix.

Interviews were conducted with judges in Franklin County Court of Domestic Relations. Interviews provided information on judges' background.

To analyze the effects of background characteristics of judges and attorneys on child support awards, the attorney sample was merged via case identification with the court case sample. Ninety-two attorneys were able to be matched with their actual court cases. The court case sample was used as the control in the empirical child support award and amount models.

The data sets used in this study yielded numerous explanatory variables which were thought to effect child support awards. Consequently, to avoid the problem of multicollinearity among the explanatory variables, a two-stage process was used to reduce the number of explanatory variables.

RESULTS

Model Building: Receipt of Child Support

At the first stage in variable reduction or model building the criteria for continued use in the second stage were inclusion in the final step of a stepwise discriminant function analysis and probit analysis, and significance at the .20 level or higher. At the second stage, the criterion for continued use in the final model was significance at .10 or higher in a probit analysis run on all variables which passed the criterion in the first stage.

As reported in Table 1, two background characteristics, attorney's gender and attorney employed in a legal corporation emerged as best discriminators between child support recipients and nonrecipients. These variables were significant at the .20 level or higher. Knowledge of these two background characteristics enables us to classify 76% of awards correctly.

Four background characteristics, attorney's age, favored passage of guidelines, attorney employed in a private practice and attorney's experience were significant at the .20 level or higher in the probit model.

TABLE 1. Stepwise Discriminant and Initial Probit Analysis of the Effects of Judges' and Attorneys' Background Characteristics on Receipt of Child Support Awards, 1987-88.

Background Characteristics	N = 92 Discriminant Coefficient	N = 92 Probit Coefficient
Attorney not specializing		1.66044
Favored passage of guidelines		-.49577*
Private practice		.90727*
Judge's age		-.05693
Attorney's ideology		.14571
Attorney's gender	0.87423*	-.21220
Attorney's income		-.00001
Legal corporation practice	-0.56873*	2.64184
Attorney's age		-.12264*
Judge's experience		-.04260
Attorney's experience		.17141*
Public defender practice		.00000
Corporation practice		.00000
Judge's temperament		-.06898
Judge's legal ability		.00000
Judge's courtroom management		.00000
Judge's integrity		.00000

Canonical R-square = .19
Percent classified correct = 76%
* = significant at the .20 level or higher

Once the impact of these six background characteristics was taken into account, attorney not specializing, judge's age, attorney's ideology, attorney's income, judge's experience, attorney employed as public defender, judge's temperament, judge's legal ability, judge's courtroom management and judge's integrity were rejected at stage one. The statistical hypothesis that these variables had no effect on receipt of a child support award could not be rejected at the .20 level or higher.

As reported in Table 2, attorney's age, attorney's experience and attorney employed in a private practice remained significant in the probit analysis on the reduced set of variables. Attorney female, favored passage of guidelines and attorney employed in a legal corporation were rejected for inclusion in the final model. The statistical hypothesis that these variables had no effect on receipt of a child support award could not be rejected at the .10 level or higher.

TABLE 2. Intermediate Probit Analysis of the Effects of Judges' and Attorneys' Background Characteristics on Receipt of Child Support Awards, 1987-88.

Background Characteristics	N = 92 Probit Coefficient
Attorney female	-.41886
Private practice	.61456*
Favored passage of guidelines	-.19778
Legal corporation practice	2.52933
Attorney's age	-.09100*
Attorney's experience	.11938*

* = significant at the .10 level or higher

The Empirical Child Support Award Model

To arrive at the final child support award model, controls which were introduced in the theoretical model section are reintroduced. A model building technique (similar to background characteristics of judges and attorneys) was performed to arrive at the final controls. The following child support award model was estimated:

(1.5) CSAward = f (background characteristics of judges/attorneys); Ip, Io, S

Where:

CSAward = Child Support Award

Ip = Need for Child Support

Io = Ability to Pay Child Support
Noncustodial employed

Ip/Io = Need and ability
Homeownership
Both parents' assets

S = Legal System Characteristics
Attorney in a private practice
Attorney's age
Attorney's experience
Number of pages filed
Woman had attorney
Divorce (versus dissolution)
Husband contested divorce
One year separation as grounds
Neglect as grounds

(Continued)

Child Support Award Model Estimation

Results of equation (1.5) are reported in Table 3.

Only a subset (S), legal system characteristics, i.e., background characteristics of judges and attorneys, significant at the .10 level or higher are discussed.

The positive effect for attorney's experience may be an indication that knowledge of the system, ability to bargain, ability to persuade and ability to present effective legal arguments increase with experience. If so, the positive effect for experience indicates there is a payoff for skill acquisition.

Although attorneys have the ability to win child support awards for their clients, women who were represented by an attorney did not fare as well as women who were not represented by an attorney. These attorneys had a relatively large negative effect on receipt of a child support award. This finding is not consistent with results in preliminary stages (not reported) nor with previous empirical research (Stafford et al., 1987).

Preliminary results of this study and Stafford et al., (1987) found women who were represented by an attorney were more likely to receive child support awards. These contradictory results could be due to model specification error. Table 3 includes additional information on attorney background characteristics such as age and experience. For example, women represented by an attorney was negatively correlated with attorney experience (-.30). Thus, women were more likely to be represented by less experienced attorneys.

On the other hand, the older the attorney the lower the probability of receiving a child support award. It is possible that the age variable was capturing some of the effects from the attorneys; ideological beliefs and attitudes toward child support and the child support system. Attorneys who were self-evaluated as conservative or middle of the road were distributed evenly across the age span. Seventy-seven percent of the self-rated liberals were 40 years older or younger. Further, younger attorneys (.74) were more heavily in favor of passage of guidelines than older attorneys (.68). These findings reveal some of the conservative attitudes toward child support in Franklin County.

Number of pages filed has been interpreted as being an indicator of contentiousness or willingness to fight for a child support award (Stafford et al., 1987). Number of pages filed had a small positive effect on receipt of a child support award. Noncustodial employment could be viewed as an indication of ability to pay. Noncustodial employment had a large positive effect on receipt of a child support award. Homeownership could be viewed as an economic asset. Homeownership had a large negative effect on the receipt of a child support award.

TABLE 3. Probit Analysis of Factors Affecting Receipt of Child Support Awards, 1987-88

Factors	N = 92 Probit Coefficients (Standard Errors)
Attorney's age	-.17397* (-1.72)
Private practice	.39481 (.53)
Attorney's experience	.22690* (1.90)
Number of pages filed	.06027* (1.61)
Woman had attorney	-1.90199* (1.80)
Divorce	-2.62755 (.44)
Neglect	2.58851 (.43)
Homeownership	-1.60802* (-1.83)
Noncustodial employment	1.53515* (1.67)
Both parents' assets	2.52617 (1.37)

* = significant at the .10 level or higher
Pearson Goodness of Fit Chi Square = 18.291
P-value = 1.000

Model Building: Amount of Child Support

An OLS multiple regression technique was used to reduce the set of variables for entry into the final child support amount model. Only variables which were significant at the .20 level or higher were included.

Only one background characteristic, judge's integrity, emerged significant in the background characteristics model (Table 4).

Attorney employed in a legal corporation, attorney's income, attorney's age, judge's age, attorney not specializing, attorney's gender, favored passage of guidelines, attorney's experience, attorney's ideology, attorney employed in a private practice and judge's experience were rejected in the preliminary analysis. The statistical hypothesis that these variables had no effect on child support award amount could not be rejected at the .20 level or higher.

TABLE 4. The Effects of Judges' and Attorneys' Background Characteristics on Amount of Child Support, 1987-88.

Background Characteristics	OLS Unstandardized Coefficients
Judge's integrity	-2.465981*
Legal corporation practice	-22.137229
Attorney's income	.000012
Attorney's age	-.055511
Judge's age	-.632755
All type practice	4.992878
Attorney's gender	10.341226
Favored passage of guidelines	-5.877248
Attorney's experience	.758431
Attorney's ideology	.300720
Private practice	3.662887
Judge's experience	-.125104

R-square = .12
* = significant at the .20 level or higher

The Empirical Child Support Amount Model

To arrive at the final child support amount model, controls which were introduced in the theoretical model section are reintroduced. A model building technique (similar to background characteristics of judges/attorneys) was performed to arrive at the final controls. The following child support amount model was estimated:

(1.6) CSAward = f (background characteristics of judges/attorneys); Ip, Io, S

Where:

CSAward = Child Support Award
Ip = Need for Child Support

Custodial Income
Custodial other income
Custodial age
Welfare

Io = Ability to Pay Child Support

Noncustodial employed

Ip/Io = Need and ability

Age of children
Both parents' liabilities
Number of children receiving support

S = Legal System Characteristics

Judge's integrity
Divorce (versus dissolution)
One year separation as grounds
Woman had attorney
Number of pages filed
Husband was plaintiff
Wife was plaintiff

Child Support Amount Model Estimation

Results of equation (1.6) are reported in Table 5. Only a subset (S), legal system characteristics (i.e., background characteristics of judges and attorneys) significant at the .10 level or higher, are discussed.

The judge's integrity could be interpreted as the judges' adherence to a code of judicial conduct. The judge's integrity had a large negative effect on child support award amount. This result could be due to the legislated mandate that judges follow federal mandated child support guidelines in setting child support award amounts. If judges follow child support guidelines, the judge's integrity is not important. The majority of central Ohio attorneys in this study reported these judges to be following the 1987 Ohio child support guidelines over 75% of the time. Rarely (less than 25% of the time) did these judges comply with attorneys' requests to deviate from the 1987 Ohio child support guidelines.

Alternatively, judges with higher integrity scores maybe following the 1987 Ohio child support guidelines while judges with lower integrity scores may deviate (on the high side) from the guidelines.

Number of children receiving support and age of children could be interpreted as being indicators of both need for child support and ability to pay child support. Number of children receiving support had a large positive effect on child support award amounts. Age of children had a small positive effect on child support award amounts.

Both parents' liabilities and noncustodial parents' income could be interpreted as being indicators of ability to pay child support. Both parents' liabilities had a large negative effect on child support award amounts. Noncustodial parents' income had a small positive effect on child support award amounts. Custodial parents' other income could be interpreted as being an indicator of need for child support. Custodial parents' other income had a small positive effect on child support award amounts.

A one year separation has fault implications. If a one year separation was cited as grounds for divorce, the couple was selecting the least faulty grounds for divorce. A one year separation had a large positive effect on child support award amounts.

TABLE 5. Factors Affecting Child Support Award Amounts, 1987-88.

Factors	N = 92 OLS Unstandardized Coefficient (Standard Errors)
Judge's integrity	-.745016* (-1.69)
Custodial income	.000032 (1.45)
Welfare	9.984379 (1.43)
Age of children	.242329* (6.24)
Husband was plaintiff	19.555749 (.68)
Both parents' liabilities	-3.113133* (2.26)
Noncustodial income	.001329* (8.59)
Custodial other income	.006435* (3.26)
One year separation	7.571147* (1.67)
Woman had attorney	7.762209 (1.34)
Custodial age	.190997 (1.40)
Divorce	-26.941127 (-.95)
Number of pages filed	.081307 (1.45)
Number of children receiving support	6.692427* (2.45)
Wife was plaintiff	24.130469 (.86)

R-square = .53
* = significant at the .10 level or higher

CONCLUSIONS

The purpose of this study was to examine the effects of background characteristics of judges and attorneys on child support awards in Franklin County, Ohio, with respect to adoption of the 1987 Ohio child support guidelines. Interestingly, the two sets of background characteristics had separate effects on child support awards. Attorneys' background characteristics affected receipt of child support. Judges' background characteristics affected amount of child support. While the Ohio Supreme Court Advisory Committee (1987) proposed that the 1987 Ohio child support guidelines would enable the court system to provide predictable and fair child support awards, findings in this study did not support such a proposition. This study found central Ohio attorneys to be reluctant to win child support awards for their clients. Consequently, the awarding of child support orders is not as predictable as it could be. This reticence could be due to attorneys' perceptions that the guidelines are unfair. Some attorneys wrote additional comments on the questionnaire to the effect that: 1) award amounts are too high, 2) the high award amounts have led clients to file bankruptcy and 3) the guidelines are in need of revision.

The guidelines were also to provide fair child support awards. The judges' integrity was found to have a large negative effect on child support award amounts. This could be an indication that judges with lower integrity scores are deviating (on the high side) from the guidelines.

IMPLICATIONS

Findings from this study have implications for family counselors' advice. While clients have certain variables (e.g., race, sex, age) which cannot be manipulated, other variables can be manipulated in divorce proceedings. Clients can choose whether or not to be represented by an attorney. If clients decide to be represented by an attorney they have some choice as to whether to be represented by an older or younger attorney, and, to some extent, a liberal or conservative attorney.

Findings from this study also have implications for attorneys' strategies. Due to repeated exposure to judges, attorneys have some knowledge as to whether a particular judge's judicial conduct is appropriate. Perhaps attorneys may want to avoid those judges they perceive to be of low integrity.

APPENDIX

Central Ohio attorneys scored (on a scale of 1 [very bad] to 7 [very good]) domestic relations judges in Franklin County, Ohio on four performance attributes--temperament, integrity, courtroom management and legal ability. Although individual mean performance scores of the attributes were found to be in range with the overall mean performance score of the attributes, the means were scored differently. Consequently, individual mean performance scores were used as a statistical measurement of judicial performance.

REFERENCES

Beller, Andrea H. and John Graham (1986). "The Determinants of Child Support Income," Social Science Quarterly. 67: 353-364.

___ (1985). "Variation in the Economic Well-Being of Divorced Women and their Children: The Role of Child Support Income," in Martin David and Timothy Smeeding (eds.). Horizontal Equity, Uncertainty and Economic Well-Being, Chicago, Illinois: University of Chicago Press: 471-509.

Keith, Pat M. Robert B. Schaefer (1987). "Relative Deprivation, Equity/Inequality, and Psychological Well-Being," Journal of Family Issues. 67 (No. 5): 199-211.

Lane, Irving M. and Lawrence A. Meese (1971). Equity and the Distribution of Rewards. Detroit, Michigan: Management Information Services.

Mnookin, Robert A. and Lewis Kornhauser (1979). "Bargaining in the Shadow of the Law: The Case of Divorce," Yale Law Review. 88: 950-997.

Public Law 98-378 (1984). "Child Support Enforcement Amendments of 1984," United States Statutes at Large. 98: 1305-1331.

Robins, Philip K. (1987). "An Analysis of Trends in Child Support and AFDC from 1978 to 1983," Institute for Research on Poverty Discussion Paper No. 842-87. University of Wisconsin-Madison: 1-30.

___ and Katherine P. Dickinson (1985). "Child Support and Welfare Dependence: A Multinomial Logit Analysis," Demography. 22 (No. 3): 367-80.

___ (1984). "Receipt of Child Support by Single-Parent Families," Social Science Review. 622-41.

Stafford, Kathryn; Golden Jackson; and Sharon Burgess (1989). "How Have Child Support Guidelines Affected Awards? An Analysis of the Evidence," Proceedings of the Annual Conference of the American Council on Consumer Interests: 239-243.

___ (1987). "Financial Security of Divorced Women: Assets Versus Income," Proceedings of the Annual Conference of the American Council on Consumer Interests: 137-42.

United States Bureau of the Census (1987). "Child Support and Alimony: 1985 (Advance Report)," Current Population Reports. Washington, D.C.: U.S. Government Printing Office: 1-2.

White, Kenneth R. and Thomas R. Stone (1976). "A Study of Alimony and Child Support: Rulings with Some Recommendations," Family Law Quarterly. X (No. 1): 1181-1268.

Yee, Lucy M. (1979). "What Really Happens in Child Support Cases: An Empirical Study of Establishment and Enforcement of Child Support Orders in the Denver District Court," Denver Law Journal. 57 (No. 1): 21-67.

DISCUSSION

Barbara M. Heinzerling, J.D.[1]

Abstract

Two of the three papers discuss the role of the attorney in assisting consumers in the pursuit of legal remedies. The third paper offers a policy discussion of a legislative remedy to a serious family problem, i.e., housing for families with children.

Introduction

These three papers deal with aspects of the legal system and important family and consumer problems. The two research studies on child support and small claims court continue the research in these areas and each makes a contribution to the field. The policy paper on housing discrimination offers an analysis of why discrimination on the basis of "familial status" has occurred and a discussion of why such discrimination is detrimental to the the entire community not just the involved families.

Bonner

In this study, the author grouped all cases together and then compared the respondents who utilized an attorney either for advice or representation with those respondents who were without an attorney. This meant there was no distinction among plaintiffs who were individuals, full-time business persons or part-time business persons. Nor was there any way to identify the defendants and thus discern the nature of the relationship between the parties, e.g. Individual P. vs. Individual D. or Business P. vs. Individual D. It is quite possible that as plaintiffs there are significant differences between individuals and businesses. Businesses are more likely to have created business practices which assist them in court, i.e., written contracts to use to pursue or defend a case; phone notes kept on all calls; exculpating clauses or notices posted in the business.

The lack of information on the court's monetary jurisdictional limits, the ceiling limit for the plaintiff and for the counterclaim by the defendant, and on the statutory structure of the court also impact upon understanding the results of this study. Arguably, these elements of the legal structure do influence the behavior of both plaintiffs and defendants.

It seems necessary in future studies to differentiate between legal advice and legal representation. The findings appear to suggest that neither pre-trial advice nor representation in court had any influence. The two however, are quite different and pre-purchase information is generally recommended.

Due to the size of many judgments in small claims cases, it should be expected that few litigants used legal services after receiving a favorable judgment. This is probably due to the cost of legal services versus the anticipated benefit. Collection may be difficult for any creditor and the particular court from which the judgment is issued does not generally make a difference.

Plaintiffs facing a defendant represented by an attorney complained that the representation made the trial more formal, complicated, technical and less balanced. That may, however, been a deliberate trial strategy if the defendant knew his/her defense was weak or nonexistent. Thus knowledge of who the plaintiff and defndant were as well as the subject matter of the litigation, may shed light on this issue.

In conclusion, several recommendations may be made. Further research should study only individual plaintiffs against different types of defendants. Small claims courts should be studied according to their jurisdictional limits to see if different results occur. Defendants should be studied, but again as with plaintiffs, differentiation between individuals and businesses must be made.

Ellis

Prior literature in this area has emphasized the needs of the custodial parents and the division of responsibility to pay in accordance with relative ability to pay. The focus of this particular study is on the subset (S) of legal system characteristics in an equation on child support. This research provides detailed information on background characteristics of attorneys and their perceptions of judges.

Most of the variation in child support awards remains unexplained. The intorduction of child support guidelines, however, may resolve some of the lack of explanation. Ohio's child support guidelines are based upon the Income Shares Model, developed by the Child Support Guidelines Project of the National Center for State Courts, under a grant from the U.S. Office of Child Support Enforcement. The Income Shares Model is predicated on the concept that the child should receive the same proportion of parental income that he or she would have received if the parents lived together.

Several concerns do exist with this study. The criteria for selection of the domestic relations cases was the presence of a minor child in the family. There was no distinction made in the sample between dissolution cases (Ohio's "no-fault" divorce alternative) and divorce cases. In dissolution cases, the parties must reach agreement on child support without any intervention by the judicial system. Nor were divorce cases further divided between those cases in which the parties ultimately reached a child support agreement and those in which the judge had to decide the child support amount. Cases in which the parties ultimately reach the decision on amount of child support could be significantly different from those in which they can not.

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[1] Associate Professor, Consumer Education

A major concern is with the use of Ohio's child support guidelines. The adoption of the child support guidelines in Ohio was highly controversial and they became operational on October 1, 1987. Since this study examined only cases filed in the first six months following implementation, there was little time for learning about and accepting the use of the guidelines. The second and potentially more serious problem is with the relationship between these child support guidelines issued by the Ohio Supreme Court and the Ohio Revised Code statutory guidelines (Sec. 3109.05). The language of the issuing document states that, "The (guidelines) shall be used as a starting point and considered in conjunction with the appropriate statutory provisions... Then in capital letters the statement is made, "HOWEVER, THE COURT SHOULD EXERCISE BROAD DISCRETION IN DEVIATING FROM THE GUIDELINES IN CASES WHERE APPLICATION WOULD BE INEQUITABLE TO THE CHILD(REN) OR TO ONE OF THE PARTIES." Thus, deviation was encouarged and no mention was made of integration of the guidelines with the statutory factors. Thus, it is possible that these two problems with the guidelines exerted a negative impact on both judges and attorneys.

The statement, "This study found Central Ohio attorneys to be reluctant to win child support awards are not as predictable as they could be.", suggests a lack of advocacy by the attorneys in the study. The author is interpreting the action of not seeking an award in excess of the child support guidelines as reluctance in seeking child support awards. This may be an incorrect interpretation. The explanation may be related to the factors mentioned above and/or on an appreciation of the full impact of the guideline amounts. Unlike a number of other states, the amount of child support provided by the Ohio guidelines is based upon gross incomes of the parties. These guidelines were considerably above those amounts which courts across the state of Ohio had been ordering. Thus, the general perception in the legal community was that the support awards under these guidelines were a significant change to begin with and the discretion to deviate from the guidelines would mean a downward deviation not an upward one.

"One of the essential elements of the law is some measure of uniformity. One of the important elements of law is predictability".

A causal relationship between advocacy to procure child support awards above a guideline amount and predictability of such awards was not investigated in this paper although the author did link those two ideas. Nor is there any differentiation between consistency of child support awards and predictability of awards. There may or may not be any causal relationships between advocacy by the attorney and consistency or predictability of awards. Neither however, were researched in this paper. If either is the desired topic of research then cases decided before the implementation of the guidelines could be matched and compared with cases decided after implementation. Or comparisons could be made between similar cases from different counties or among those divorce cases in which there is a judicial determination of child support.

The paper would be strengthened by an explanation of the conceptualizaiton of "judge's integrity" and clarification of the role of the judge. It would be quite possible to argue with the assertion that judges are a part of all divorce cases and approve all settlements. If couples use a Separation Agreement, it is quite likely that it will not be reviewed by a judge.

DeLuca and Quinn

This paper provides a valuable examination of the Fair Housing Amendment Act of 1988. As the authors note the new law is important because it is the first time legislative enactment has given protection to "familial status" under federal civil rights law. The point that discrimination on the basis of the presence of children in the family may be economically beneficial to the individual landlord but detrimental to the community at large, may need greater elaboration with the general public in any explanation of the new law.

As the authors note landlords may still discriminate against individual families on characteristics such as inability to pay or a recent bankruptcy but not on membership in a class. In practice, however, landlords may continue to discriminate on the basis of familial status but allege one of the other acceptable reasons for such discrimination. Thus, case by case development will be necessary as courts interpret the law in relation to specific factual patterns.

Because landlords may have the perception that renting to families with children is more costly than renting only to adults, it may be that considerable education will be required before this perception is changed. The passage of this corrective legislation is only the beginning, considerable work related to implementation remains to be done.

REFERENCES

Megaw, L. J. (1971). "The Mihalis Angelos", 1 Q.B. 164 at 205.

Ohio Child Support Guidelines (1987). Ohio Rules of Superintendent Rule 75. August.

THE INFLUENCE OF THE CONSUMERS UNIONS: THE CONSUMER ECONOMICS VIEWPOINT (SORT OF)

Robert N. Mayer, University of Utah[1]

The consumers unions have clearly been successful in attracting the resources necessary for organizational survival. Moreover, the number of consumers unions continues to grow and the scope of their activities increase. When viewed from the hard-boiled perspective of a consumer economist, however, there is very little documentation of the actual impact of the consumers unions on markets, seller behavior, and, most important, consumer welfare. This paper suggests some means of studying the influence of consumers unions as well as reasons for greater cooperation between consumers unions and other consumer-oriented researchers.

I take it as a great compliment that the eminent consumer economist E. Scott Maynes asked me, a mere sociologist, to reflect on the influence of the consumers unions of the world from the perspective of a consumer economist. While impersonating a consumer economist poses some challenges, it also frees me to say certain things with which the sociologist in me might disagree or feel uncomfortable. In particular, being a consumer economist for a day allows me to be more empirically demanding than I would normally be (although this won't necessarily put me any closer to the truth).

SETTING PARAMETERS FOR THE ASSESSMENT OF INFLUENCE

First, as a hard-headed consumer economist, I do not like the word "influence." It connotes interpersonal and political processes, as in the influence of a parent on a child or of a lobbyist on a legislator. I prefer the word "impact" or, even cleaner, the word "effect."

Before one can determine the effect of the world's consumers unions, it is necessary to be specific about the mechanism and object of influence. Put differently, consumers unions engage in a variety of activities. Which of these activities are we interested in evaluating? Similarly, the impact of the consumers unions can be analyzed at several different levels of analysis, from the individual to the entire society. Which of these levels of analysis are we talking about?

Types of Activities

The consumers unions are, first and foremost, product testing organizations that disseminate their findings through magazines. The majority of space in these magazines is devoted to comparative tests, but typically there are also articles on consumer problems that are not readily amenable to product testing as well as government and business responses to these problems.

The publication of comparative testing magazines is the most important but not the only information dissemination activity of consumers unions. Some of these organizations publish books and newsletters; produce consumer education films; have regular programs in the electronic media (tv, radio, and videotex) and columns in newspapers; and provide individualized data for the purchase of major durable goods.

Complementing these educational activities are more political ones. Often operating through separate entities so as not to jeopardize favorable tax treatment, a consumers union might organize a conference to raise awareness of a particular issue, lobby for a particular law or regulation, file a lawsuit, and provide financial support for budding consumer organizations.

In short, consumers unions do much more than conduct comparative tests. Since their raison d'etre is to disseminate impartial information about products, efforts to evaluate the impact of consumers unions should begin with their comparative testing information.

Types of Impacts

If we focus our attention on the effect of comparative product tests, there are at least five levels at which impacts might occur: (1) individual consumers; (2) individual firms (including manufacturers, wholesalers, and retailers); (3) markets; (4) mass media coverage; and (5) government policy. While the consumers unions might have an impact on societal values and consumer expectations, these concepts are just too squishy for a consumer economist.

As a consumer economist, I want to know how consumer welfare has been affected by the activities of the consumers unions. Accordingly, the first of these five levels is the most important. The other four may be viewed as mechanisms by which consumer welfare is affected.

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RELEVANT LITERATURE

To date, there have been two types of studies that explicitly attempt to gauge the impact of a specific consumers union, but each type has a serious methodological limitation for those of us who like to talk about causes and effects. One type consists of political histories of consumer controversies in which a consumers union played a prominent role. The best example of this approach is Norman Silber's excellent history of Consumers Union of the United States, titled Test and Protest (1983). Silber convincingly argues that Consumers Union played a key role in raising public awareness and stimulating government action in three areas: (1) the risks of cigarette consumption, (2) preventable automobile accidents and injuries, and (3) contamination of milk from man-made radiation.

In each of the case studies, Consumers Union drew on its special expertise in product testing as a means of placing consumer issues on the public, media, and policy agendas. Yet, as with any case study, the question remains of what would have happened in the absence of Consumers Union's actions. Surely, these issues would have eventually been raised by other scientists and activists, so, at best, one can say that the actions of Consumers Union increased the speed, by some undefined amount, with which particular consumer problems were translated into issues requiring government action. Ultimately, one would like to determine how many lives were saved by the early intervention of Consumers Union in the agenda-setting process.

A relevant example concerns Consumers Union's coverage of the safety deficiencies of the Suzuki Samurai. In its July 1988 issue, Consumer Reports claimed that the Suzuki Samurai "had come within a hair of rolling over at a moderate speed in a maneuver that shouldn't put daylight under the tires of any car" (p.425). The article received tremendous coverage in the mass media and stimulated an investigation by the National Highway Traffic Safety Administration. The article may have depressed the new sales of the vehicle in question, but we'll never know since dealers reacted to the bad publicity by offering buyer incentives (including life insurance policies). The article may also have altered the driving behavior of the Samurai's owners, but again we'll never know. Thus, even for Consumer Report's most publicized expose of the 1980s, there is no firm evidence of its positive impact on consumer welfare. (The remote but disturbing possibility exists that the expose forced Samurai dealers to lower their prices, thereby allowing young people to enter the new car market and increasing the number of automobile injuries and fatalities.)

The second type of study that directly addresses the impact of the consumers unions asks consumers (and, in one study, manufacturers and retailers) to report on the impact of comparative testing information on their own behavior. In a pathbreaking study, Thorelli, Becker, and Engledow (1975) surveyed 1000 randomly selected subscribers of Consumer Reports. The researchers asked questions such as:

> Were you aware of the recommendations of CR when you last bought a major product?
>
> How important were the recommendations in helping you to make this decision?
>
> In cases where you have checked Consumer Reports or their annual buying guide, how often have you bought a brand which was highly recommended by them?
>
> Do you agree or disagree that negative comments in Consumer Reports have at least occasionally kept you from buying a particular brand?

Not surprising, the majority of respondents indicate that they were aware of and used the information published in Consumer Reports. The sociologist in me is willing to take what respondents say at face value, but the consumer economist in me is highly skeptical of self-report data. In particular, I worry about social desirability, in this case, the tendency to answer questions according to what respondents think they should do rather than what they actually do.

Raffee and Fritz (1984) took the innovative step of asking, not consumers, but retailers and manufacturers about their perceptions of the impact of the product testing reports of West Germany's Stiftung Warentest. For instance, manufacturers were asked about the impact of the product ratings on their sales, pricing policies, and promotion efforts. Product test results are probably more important to sellers than to consumers, and so might be more accurate. Nevertheless, there is good reason not to take the responses of sellers too literally. Manufacturers, in particular, have an incentive to overstate any negative impact of product testing on sales. If sales are below expectation, what better scapegoat is there than a negative rating from Stiftung Warentest? Similarly, retailers probably overstate the extent to which they adjust their inventory in response to product test results. Retailers are more than willing to carry products that receive high test scores--so long as these products also carry a high profit margin. If profits are greater on products with low ratings, retailers will think twice before canceling their orders.

In sum, studies based on self-reported behavior are useful but only up to a point. If one wants to convince a consumer economist like me that the consumers unions have had an impact, I would like to see the following types of studies:

(1) comparisons of market share before and after testing reports (holding other factors constant, of course);

(2) comparisons of prices before and after testing reports;

(3) comparisons of the speed of post-rating product changes between manufacturers receiving positive and negative ratings; and

(4) comparisons of stock market prices before and after testing reports.

I suspect that the first two types of studies have been conducted for a few individual products, if for no other reason than as part of lawsuits against consumers unions. But I am not aware of any comprehensive studies that examine changes in market share and/or prices across different types of products.

Product tests are intended to affect market share, prices, and product features. Any effects on stock prices would be more direct. If a positive rating lifts stock prices, this suggests that financial experts believe that product testing affects market share and prices. Stock prices are, in this sense, a surrogate measure.

There is ample precedent in the economics literature for using stock prices to study the impact of product-related information in the mass media. Researchers have examined the impact on stock prices when the FTC brings false advertising cases (Peltzman 1981) and when automobiles or drugs are subject to government recalls (Jarrell and Peltzman 1986). According to these studies, capital markets strongly penalize producers for deceptive advertising or faulty products. The common author in these two studies, Sam Peltzman, suggests that capital markets realize that, in addition to the costs imposed by government sanctions, firms lose "goodwill" when they break the rules of the marketplace. In short, these studies suggest that stock prices might provide a useful summary indicator of the impact of product testing reports.

CONSUMER ECONOMISTS AND PRODUCT TESTERS

Although the best studies evaluating the impact of the world's consumers unions remain to be done, consumer economists have been quite inventive in using comparative testing data to advance knowledge about the operation of markets and the dynamics of consumer behavior. Comparative testing provides consumer economists with a defensible measure of a highly illusive concept--product quality. Curry and Faulds (1986), in addition to their own research on correlations among product characteristics, identified more than 30 studies that use objective quality ratings to investigate topics related to markets and consumer decision making. Citing some specific examples, Loren Geistfeld has studied the relationship between price and quality (1988), E. Scott Maynes and his colleagues have charted the perfect information frontier (1984), and Brenda Cude has calculated the returns to aggressive consumer search behavior (1987). George Sproles and Loren Geistfeld (1980) have used product test data to study the efficiency of consumer decision-making, while Richard Olshavsky and Dennis Rosen (1984) have used it to understand choice-simplifying strategies of consumers.

In addition to providing data for studies by consumer economists, the consumers unions have contributed to consumer-oriented researchers in a number of other ways. Thinking of the specific relationship between Consumers Union and the American Council on Consumer Interests, CU provided financial support to ACCI in its early years, and CU representatives frequently appear on the program of ACCI conferences. The activities of consumers unions also provide a shield of legitimacy for consumer economists and other consumer-oriented social scientists. In response to the suspicious question of whether we are associated with Ralph Nader and the one-sided activist approach he represents, we can answer that we are more like the impartial and scientific testers at Consumers Union.

The relationship between consumer economists and consumers unions has been, to use a favorite word of consumer economists, rather asymmetric. Consumer economists like E. Scott Maynes, Richard Morse, Gordon Bivens, Robert Herrmann, Stewart Lee, and Jean Bowers have served on the CU Board of Directors. Still, the many benefits consumer economists have derived from the consumers unions have not been fully repaid. The time seems right for deeper collaboration between these two segments of the consumer movement. In addition to measuring the impacts of the consumers unions, consumer economists are adept at evaluating the full range of consumer protection policies. Although consumer advocates sometimes resist evaluation studies, these studies often provide ammunition for more and better policies, a goal that is shared with the consumers unions. Moreover, consumer economists have a long record of studying one of the relatively recent foci of consumers unions--the consumer problems of low-income, elderly, third-world, or otherwise vulnerable consumers.

In sum, the consumers unions of the world have no doubt been highly influential, but consumer economists can help to document this fact. More broadly, consumer economists represent a relatively untapped resource for the product testing organizations, especially as the latter expand their purview. In the process of bringing product testers and consumer economists into greater contact, hopefully there will be some space for a few consumer sociologists.

REFERENCES

Cude, Brenda J. (1987), "Estimating the Returns to Informed Decision-Making,: *Journal of Consumer Affairs*, 21 (Summer): 86-95.

Curry, David J. and David J. Faulds, "Indexing Product Quality: Issues, Theory, and Results," *Journal of Consumer Research*, 13 (June): 134-145.

Geistfeld, Loren V., "The Price Quality Relationship: The Evidence We Have, The Evidence We Need." In E. Scott Maynes (Ed.), *The Frontier of Research in the Consumer Interest* (pp. 143-172). Columbia, MO: American Council on Consumer Interests.

Jarrell, G. and Sam Peltzman (1986), "The Impact of Product Recalls on the Wealth of Sellers." In P.M. Ippolitio and D.T. Scheffman (Eds.), *Empirical Approaches to Consumer Protection Economics* (pp.377-410). Washington, D.C.: Federal Trade Commission.

Maynes, E. Scott, Robin A. Douthitt, Greg J. Duncan, and Loren V. Geistfeld (1984), "Informationally Imperfect Markets: Implications for Consumers." In Seymour Sudman and Mary A. Spaeth (Eds.), *The Collection and Analysis of Economic and Consumer Behavior Data: In Memory of Robert Ferber* (pp. 185-198). Champaign, IL: Bureau of Economic and Business Research, University of Illinois.

Olshavsky, Richard W. and Dennis L. Rosen (1985), "Use of Product-Testing Organizations' Recommendations as a Strategy for Choice Simplification," *Journal of Consumer Affairs*, 19 (Summer): 118-139.

Peltzman, Sam (1981), "The Effects of FTC Advertising Regulation," *Journal of Law and Economics*, 24 (December): 403-448.

Raffee, Hans and Wolfgang Fritz (1984), "The Effects of Comparative Product Testing on Industry and Trade: Findings of a Research Project," *Journal of Consumer Policy*, 7 (December): 423-438.

Silber, Norman Isaac (1983). *Test and Protest*. NY: Holmes & Meier.

Sproles, George B., Loren V. Geistfeld, and Suzanne B. Badenhop (1980), "Types and Amounts of Information Used by Efficient Consumers," *Journal of Consumer Affairs*, 14 (Summer): 37-48.

"The Suzuki Rolls Over too Easily," *Consumer Reports*, July, 1988, pp.424-432.

Thorelli, Hans B., Helmut Becker, and Jack L. Engledow (1975). *The Information Seekers*. Cambridge, MA: Ballinger Press.

GAUGING THE INFLUENCE OF THE CONSUMERS UNIONS OF THE WORLD
VIEWS OF A CONSUMER ECONOMIST

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ABSTRACT

Influence: "the effects of actions, behavior, and opinions on others." This paper explores the various dimensions of the influence of the Consumers Unions of the world and proposes measurements of each. Dimensions explored include a selective, annotated bibliography of publications that deal with their influence, estimates of the growth of U. S. consumer organizations, a listing of the "vehicles" for influence employed by Consumers Unions of U.S.A. (e.g., Consumer Reports), a model that depicts the stages of influence through which consumers pass in the short-run (aware of it, approve of it, etc.), and a benefit/cost model of the long-run influence of the Consumers Unions (e.g., better choices, longer life, etc.).

The main publications of the three largest Consumers Unions--Consumers Unions of U.S.A. (hereafter CU), Consumers' Association of the United Kingdom (CA), and Stiftung Warentest of West Germany (SW)--are purchased by 2% to 5% of households in their countries and are consulted by 8% to 20% of households. By these two measures of "influence," these are influential institutions. Yet most people--even consumer affairs professionals, even their staffs--are unaware of the full extent of the influence of these organizations.

The central task of this paper is to specify the dimensions of influence of the Consumers Unions (hereafter CU's) and to spell out ways of documenting the various dimensions of influence.

My approach is (1) to pose important questions pertaining to the various dimensions of influence and (2) to specify the kind of information--and implicitly, the type of inquiry--that would provide persuasive answers to the questions posed.

THE SIGNIFICANT QUESTIONS

My first three questions deal with what we know (or can know readily):

1. What publications--books, book chapters, articles, theses--best describe the CU's and spell out various aspects of their influence?
2. What has been the growth of influence of CU's as compared with other consumer organizations over the last four decades?
3. What vehicles for influence (e.g., product testing, advocacy offices) does each employ?

My next two questions deal with what we need to know:

4. What has been the short-run influence of each CU on (1) its readers/users and (2) the public in its country?
5. What has been the long-run influence of each CU on (1) its readers/users and (2) the public in its country?

My paper consists primarily of five tables which, suitably filled in, will answer these questions.

For completeness, I list four additional questions, worthy of consideration, that are excused for lack of space:

6. What evidence do we have regarding the influence of each CU on the consumer movement, in its own country and internationally?
7. What evidence do we have regarding the influence of each CU on the functioning of both domestic and international consumer markets? Perfecting consumer markets is probably a major avenue for helping disadvantaged consumers.
8. What evidence do we have of the effect of each CU on consumer policy both in its own country and internationally?
9. What is the image of each CU? Is it regarded as "trustworthy," "useful," "doing a good job," etc.?

THE DOCUMENTATION OF INFLUENCE

A Selective, Annotated Bibliography

Assembled in Table 1 is a selective, annotated bibliography of publications on the three major CU's--CU, CA, and SW, culled from an extensive, but still incomplete search. What I have sought is a select list that would best convey the essence of each CU. The reader is warned that my list is likely to be incomplete and parochial. Recognizing this, I invite your suggestions regarding possible additions, deletions, and substitutions.

What struck me in assembling this list was the paucity of writing on these important institutions. To document the "stories" and influence of the CU's, we desperately need more writing and research. I will be adding to this literature; I urge you to joing me in this task.

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[1] Professor, Consumer Economics and Housing.

The Growth of Consumers Organizations in the United States: CU Vs. Others

Our focus here is on growth: the CU's vs. other consumer organizations. Given time limitations, the data presented pertain only to the U. S. However, the analysis that follows could be reproduced for the UK, West Germany, and the International Organization of Consumers Unions.

The method of Table 2 is to obtain for each consumer organization a single index of its influence and then to obtain estimates on this indicator for four decade points: 1960, 1970, 1980, and 1990. The indicators chosen were those selected by me or by the organizations themselves as most representative of the change in influence of the organization over time. Why different indicators? Because of the different nature of of the organizations. Some publish magazines (CU), some seek mainly to influence consumer policy (CFA), some seek to respond to consumers within their organizations (SOCAP). No single indicator would serve to represent the "influence" of all the organizations.

Thus, we must deal with an array of indicators. Some, such as the circulation of Consumer Reports, represent output measures. We would expect these to be highly correlated with direct measures of influence such as effects on buyer behavior. After all, consumers must think well enough of the publication to purchase it. Other indicators, such as the size of staff or number of supporters, represent inputs, their relation to influence depending upon the efficiency with which they are used. Finally, for one organization, we have a measure of affiliation, members. As in the case of magazine circulation, we would expect membership to be highly correlated with influence. Again, consumers must think well of an organization if they decide to affiliate with it.

Multiple indicators of change in influence have a nasty consequence for analysis: we cannot make valid comparisons of different organizations at a point in time. We can only compare changes in the rate of growth of the influence of each.

Qualifications aside, these numbers merit your attention. As far as I know, Table 2 represents the first compilation ever of data on the growth of consumer organizations.

What do we learn? First, since our focus is on the CU's we note that even in 1960, the circulation of Consumer Reports (herafter CR) was close to one million. Upon CU's discovery of advertising at about 1965, its circulation more than doubled, reaching 2.0 million in 1970. It doubled again between 1970 and 1990, as shown by Table 2, attaining a circulation of 4.5 million. Thus, 5% of U. S. households subscribe to it and up to 15% consult it occasionally. Judged only by its circulation, CR is more influential than the well-known newsmagazines, Newsweek (3.3 million) and Time (4.4 million, from Gale Research, 1990). How many of you had a realistic perception of this comparison before reading this?

What of the other consumer organizations? The "star" is the American Association of Retired Persons (AARP). Starting from a much lower base in 1960, AARP's membership has grown one hundredfold between 1960 and 1990 so that its membership of 32.2 million includes an incredible 35% of U. S. households and its bi-monthly publication, Modern Maturity, has a circulation of 22.4 million. Ironically, until recently many in the consumer movement did not count AARP as one of their own. And perhaps for good reason. Alone among American consumer organizations, AARP is a special interest consumer organization, representing older rather than all consumers.

Turning to the other and younger not-for-profit consumer organizations, it is worth asking how they fared in the 1970's vs. the 1980's. The answer is that they typically grew by 50% during the 1970 decade and, except for ACCI, by 200% to 300% during the 1980's. A fascinating difference since it was a widely held view that the 1970's was the consumerist decade and and the 1980's represented a recession from consumerism. These numbers, supplemented by those for CU and AARP, show that the Reagan decade was a period of enormous growth for the non-for-profit consumer organizations.

Just as the First Era of Consumerism in the early 1900's induced a business response with the inauguration of the Better Business Bureaus in 1912, so the Third Era has given rise to a modern response, the emergence of consumer affairs professionals in business and their organization, the Society of Consumer Affairs in Business, started in 1971. (Cf. Herrmann, 1970 for a discerning analysis of the "three eras of Consumerism..) As Table 2 shows, SOCAP shared the same trend as the not-for-profit consumer organizations, doubling its membership of Directors/Vice Presidents for Consumer Affairs in the 1980's, the Reagan Administration notwithstanding.

Only in the government sector are our preconceptions for the 1970's and the 1980's fulfilled. During the 1970's, one new consumer organization was created in the Federal Government--the Consumer Product Safety Commission. The others burgeoned in both staff size and influence. And, corresponding to the conventional wisdom, in the 1980's three--FTC, OCA, and CPCS--shrank in numbers and influence while the FDA barely held its own.

This completes our portrait of the growth of consumer organizations in the U.S.

Corresponding statistical portraits could be sketched for the U.K., West Germany, and the international consumer movement with some effort. Simply obtain a list of consumer organizations from the IOCU Consumer Directory (IOCU 1989) and obtain comparable data for IOCU itself and the relevant countries. It would be interesting to see the extent to which such international and national statistical portraits forced us to revise our preconceptions.

Vehicles for Influence:
Consumers Union of U.S.A.

Until now we have been concerned with the extent of influence, as reflected by a single indicator. Now we turn to the scope of influence. Who is that the CU seeks to influence? In marketing terms, who is (are) the target audience (s)? Further, what is the nature of the influence sought?

Table 3 depicts the scope of influence of CU of the U.S.A. by specifying (1) the organizational "vehicles" used, (2) when this vehicle was started, and (3) where available, some index of achieved influence. It was only lack of time/space that prevented me from undertaking a similar analysis for CA and SW.

Since its inception, CU's primary vehicle for influence has been the delivery of consumer information, starting with Consumer Reports in 1936.[2] As Part A of Table 3 shows, CU is truly a consumer information conglomerate. While CR is still CU's primary vehicle for information delivery, CU sought to broaden its influence by (1) delivering information through different media--magazines, books, radio, TV--to the presumably different audiences that typically use these different media and (2) by specifying audiences wanting specialized types or modes of information--children, travelers, the health conscious, auto buyers.

Since Day 1, the Staff and Board of CU have sought to influence consumer policymaking in the Federal and sometimes State Governments, especially in ways that would aid the poor and other disadvantaged. This was done indirectly and discreetly by seeking to inform readers through the pages of CR and by CU Staff testifying and/or lobbying in Washington. These avenues to influence, though not separately documented in Table 3, continue to exist. (For those interested, CU's earlier approaches to this form of influence are brilliantly and carefully analyzed in Norman Silber's book, Test and Protest (Silber 1983).) What came later, instigated by Ralph Nader but supported by the entire Board of CU, was the establishment of advocacy offices, first in Washington in 1968 and then in San Francisco and Austin (1975). There is a natural division of labor with the Washington Office focusing on Federal matters and the San Francisco and Austin concentrating on state issues.

Finally, Part C of Table 3, calls attention to an entirely different aspect of influence --belief and trust in CU as an organization. Specifically, CU has been able to identify people whose faith in CU makes them willing to make substantial contributions (up to $5,000, the maximum that CU will accept) either as "Lifetime Members or as Contributors to CU's planned National Testing and Research Center. CU of U.S.A. has been the first of the CU's to tap this source of "influence" to carry out its mission.

WHAT WE WOULD LIKE TO KNOW

A Stages-of-Influence Model for the Short Run

Influence consists of "actions or processes of producing effects on the actions, behavior, or opinions of others." Until now we have focused mainly on evidence relating to the actions or processes that were intended to product effects on others. Now we turn to ascertainment of the effects themselves.

Table 4, implemented, will document the "effects on actions, behavior, and opinions of others" that are the goal of influence. The stub Table 4 lists effects that various CU entities--the organization as a whole, CR (overall), and the types of information--might have on potential audiences. These represent the various stages of influence through which an individual might pass, upon exposure to CU. One could estimate from a well designed sample survey the percent of a beginning population that answers positively to each category in the stub. This would present a statistical profile of the extent of influence of each CU/CR component. Obviously, the further down the table, the greater the influence.

This model is a modification of the hierarchy-of-effects model, introduced by Lavidge and Steiner (1961) and widely used in marketing and advertising. Beside describing the extent of influence, the model can be used diagnostically. "Large" drops in percentages as we move from the top to the bottom of the table would tell CU where its efforts to achieve influence failed and by how much.

For further insight into the use of this model, look at the paper in these Proceedings by Armand de Wasch of the Belgian Association des Consommateurs. With only small changes De Wasch's data could be fitted into a table like this.

Obviously, one can obtain stages-of-influence data for any target audience, e. g., disadvantaged consumers, senior citizens, readers of *CR*. Obviously, too, the categories specified in this illustrative table are suggestive, not definitive.

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[2] As most people know, CR was not the first periodical to publish product test information. That honor goes to Consumers' Research Magazine, published by Consumers' Research, Inc. Consumers' Research Magazine still exists. However, it discontinued the publication of product test information several years ago.

The stages-of-influence listed here represent relatively short-run effects. Do the CU's have longer-run effects? This is the question we address in the next section.

The Long-Run Influence of CU of USA

What are the long-run goals of the CU's? Briefly and somewhat simplified (as recapitulated on the masthead page of every issue of *CR*): to maintain and enhance the quality of life of consumers. What I have done in Table 5 is to focus on the effect of CU's information on the lives of its readers *in the long-run*, using a benefit-cost framework.

In the stub I have tried to think of all the long-run benefits that a reader might obtain. While it would be desirable to obtain objective data on these benefits, that would be a daunting, probably impossible task. So I would settle for subjective responses on these items secured from probability samples of readers. This observation applies equally to the costs of subscribing to *CR*.

Again, this analysis could be applied to any population of interest. Also--and extremely interesting--it could be applied at different intervals, say 10 years from now--to ascertain how CU's influence was changing in the long-run. It could be applied to different types of information or influence.

REFERENCES

Gale Research (1990), *Gale Director of Publications and Broadcast Media*. Detroit: Gale Research.

Herrmann, Robert O. (1970), "The Consumer Movement in Historical Perspective," Ch. 1 in David A. Aaker and George S. Day, eds., *Consumerism, Search for the Consumer Interest*, 4th Edition. New York: The Free Press.

International Organization of Consumers Unions (1989). *Consumer Directory--1989*. The Hague: IOCU, 1989.

Lavidge, Robert J. and Gary A. Steiner (1961). "A Model for Predictive Measurements of Advertising Effectiveness," *Journal of Marketing* (October).

Maynes, E. Scott (1990). "The Future of Consumerism," *At Home With Consumers*, 11 (No. 1, April), 6-7, 10.

Silber, Norman I. (1983). *Test and Protest: The Influence of Consumers Union*. New York: Holdmes & Meier.

TABLE 1. The Documentation of Influence: An Annotated Bibliography of Books, Book Chapters, Articles, Theses on the CU's

Benson and Benson (1970). "Survey of Present and Former Subscribers to Consumer Reports." Mt. Vernon, N. Y.: Consumers Union, Unpublished report.

--The only comprehensive survey of subscribers undertaken by CU-USA itself, plumbing both attitudes toward and use of information from Consumer Reports.

Consumers' Association (1987). Thirty Years of Which?, Consumers' Association, 1957-87. London: Consumers' Association.

--The official, brief history of CA.

Consumers Union. 50th Anniversary. [Needed: A proper entry]

--Similarly, the official, brief history of CU.

Maynes, E. Scott (1976). "Product Testing and Consumers Union," Ch. 5, in Decision-Making For Consumers, An Introduction to Consumer Economics. New York: Macmillan.

--The only comprehensive critical review of CU and its product testing methods.

Raffee, Hans and Wolfgang Fritz (1984). "The Effects of Comparative Product Testing on Industry and Trade: Findings of a Research Project," Journal of Consumer Policy, 7, (No. 4, December), pp. 423-438.

--Detailed results from surveys of both manufacturers and retailers, obtaining qualitative information on the impact of Stiftung Warentest's product ratings on sales, pricing policies, and promotion policies.

Raffee, Hans and Gunter Silberer (1984). Warentest und Unternehmen (Product Testing and Industry). Frankfurt: Campus.

--The main publication in German of the study just cited.

Roberts, Eirlys. Citation needed. A personalized history of Consumers' Association by the first editor of Which?

Schwartz, Sybil (1971). The Genesis and Growth of the First Consumer Testing Organization. Master's Thesis, Columbia University.

--A unique and fascinating account of the origins of product testing, the development of Consumers' Research, Inc. under Frederick J. Schlink, and of the bitter strike that produced the first Consumers Union.

Silber, Norman I. (1983). Test and Protest: The Influence of Consumers Union. New York: Holmes & Meier.

--A lovely account of CU's intellectual roots, case histories of CU's treatment of smoking and health, automobiles and accidents, milk and radiation, and an analysis of the strengths and limitations of product testing as a vehicle for consumer reform.

Silberer, Gunter (1985). "The Impact of Comparative Product Testing Upon Consumers, Selected Findings of a Research Project," Journal of Consumer Policy, 8, (No. 1, March), pp. 1-28.

--Detailed findings from sample surveys regarding consumer use of product test information in purchases.

Stiftung Warentest (1990). 25 Years of Stiftung Warentest. Or some such title.

--The official, brief history of Stiftung Warentest.

Thorelli, Hans B., Helmut Becker, and Jack L. Engledow (1975). The Information Seekers: An International Study of Consumer Information and Advertising Image. Cambridge: Ballinger Press.

--The classic, cross culture study of samples of American and German subscribers/nonsubscribers to Consumer Reports, Test, and DM (Deutsche mark), exploring their use of various consumer information sources.

Thorelli, Hans B. and Sarah V. Thorelli (1974). Consumer Information Handbook: Europe and North America. New York: Praeger.

--Detailed description of consumer information organizations, including the consumers unions--their procedures, their publications, their history as of the early 1970's. America.

Warne, Colston E., Ch. 5 (1982). "Consumers Union's Contribution to the Consumer Movement," in Erma Angevine, ed., Consumer Activists: They Made A Difference. Mt. Vernon, N. Y.: National Consumers' Committee for Research and Education.

--A discerning, insightful history of the origins of product testing and CU and a careful, balanced treatment of the influence of CU-USA up to the early 1970's by the "Father of the Consumer Movement," Colston Warne.

TABLE 2. The Growth Of Major Consumer Organizations in the U.S.: CU Vs Others[1]

Type of Organization	1960	1970	1980	1990	1980/ 1970	1990/ 1980	1990/ 1970
					(Percent)		
A. Not-For-Profit							
1. Consumers Union (1936) --Subscribers to CR[2]	0.8M	2.0M	2.9M	4.5M	145%	155%	225%
2. American Council of Consumer Interests (1953) --Members[3]	1,266	1,531	2,152	1,680	141%	78%	110%
3. American Association of Retired Persons (1957) --Members[4]	0.3M	1.6M	11.7M	32.2M	731%	275%	1073%
4. Consumer Federation of America (1964) --Staff[5]	----	3	5	14	167%	280%	467%
5. Nader Network --Public Citizen, etc. (1968) -- Supporters[6]	----	2M	3M	7M	50%	233%	350%
6. Washington Center for the Study of Services --Cirulation of Washington Consumers' Checkbook (1976) plus Bay Area Consumers' Checkbook (1982)[7]	----	----	20,000	75,000	NM	375%	NM
B. Government							
15. Federal Trade Commission (1915) --Staff[8]	782	1,316	1,573	950	120%	60%	72%
16. Food and Drug Administration (1932) --Staff[9]	1,678	4,252	8,089	7,877	190%	97%	185%
17. Office of Consumer Affairs (1964) --Staff[10]	----	18	52	22	288%	42%	122%
18. Consumer Product Safety Commission (1972)[11]	----	----	978	529	NM	54%	NM
C. Corporate							
18. Society of Consumer Affairs in Business (1971) --Members[12]	----	----	980	2,148	NM	219%	NM

*NM = Not Meaningful.

1. This is a revised and extended version of that appearing in (Maynes, 1990).
2. Source: Annual Buying Guides, "Statement of Ownership, Management and Circulation."
3. 1960 and 1970 (actually 1968) figures come from Henry Harap, "A Brief History of the American Council on Consumer Interests," privately printed, October, 1969; the 1980 and 1990 figures were provided by Helga Meyer, Administrative Assistant on March 19, 1990.
4. Telephone Conversation, Michael Whybrew, Marketing Specialist, February 27, 1990. AARP's magazine, Modern Maturity has the world's largest circulation, 22.4 M in 1990.
5. Telephone Conversation, Stephen Brobeck, Executive Director, February 26, 1990; corrected, telephone conversation, April 27, 1990.
6. Telephone Conversation with John Richard, Center for the Study of Responsive Law, March, 1990. Estimates based on a review of a sample of reports of organizations in the Nader Network.
7. Telephone Conversation, Robert Krughoff, Executive Director, April 26, 1990.
8. Source: William V. Rosano, Assistant Director for Operations, March 6, 1990.
9. Telephone Conversation, Robert McLeod, Chief, Budget Formulation Branch.
10. Telephone Conversation, Bonnie Jansen, Director of Public Affairs, Feb. 26, 1990.
11. Consumer Federation of America, "Consumer Product Safety Commission." Washington: CFA, Unpublished paper. Copyright 1990 by E. Scott Maynes.
12. Telephone Conversation, Louis Garcia, Executive Director, Feb. 20, 1990.

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TABLE 3. **The Vehicles for Influence: Consumers Union of U.S.A., 1990**

Emphasis/Means	Started	Output (where available)
A. Delivery of Consumer Information		
1. *Consumer Reports*	1936	4.6 million subscribers/ purchasers
2. *Penny Power* -- CU's CR for Children	1980	140,000 subscribers
3. *CR Travel Letter*	1985	73,000 subscribers
4. *CR Health Letter*	1989	NA
5. Media		
a. Consumer Reports Television		
(1) Specials on Home Box Office	1978	20 since 1980
(2) News Features on Good Morning America (ABC)	NA	56 since 1985 (14 in 1989)
b. Radio		Syndicated Program (50 stations, 5 times a week
c. Newspapers		Syndicated column (400 newspapers, 2 times a week)
6. Auto Price Services -- For $20 CU provides users with print-out of dealer costs	Mid 1980's	NA
7. Consumer Reports Books	1958	26 books published in 1989
B. Consumer Policy Initiatives		
7. CU Advocacy Offices (Washington (1968), San Francisco (1975), Austin (1975)	1968	Legislative proposals, lobbying, voicing on behalf of consumers, especially low-income consumers
8. CU's Institute for Consumer Policy Research	1980	Focus on chemical catastrophy prevention
C. Gifts for Organizational Growth		
9. Lifetime:	1985	
a. Members ($1,000 each)		1,756 as of October, 1989
b. Benefactors ($5,000)		55 as of October, 1989

Proceeds are to be used for the construction of a National Testing and Research Center for CU

TABLE 4. The Short-Run Influence of CU: A Stages-of-Influence Model

Degree of Knowledge/ Acceptance	CU As Organization	Consumer Reports (Overall)	Product Test	General Consumer Advice	Consumer Policy
		(Percent of Population:)			
1. Aware of it					
2. Know something about it					
3. Approve					
4. Prefer it (over alternatives)					
5. Seek it:					
a. In Library					
b. Borrows					
c. Subscribes, buys single copies					
6. Read it:					
a. "Religiously"					
b. Extensively					
c. Selectively					
7. Consider it in making decisions:					
a. A decisive influence					
b. Considers it seriously					
c. Considers it selectively					
8. Try to follow recommendations					
9. Believe successful in following recommendations					
10. Successful in following recommendations					
11. Influences values					

TABLE 5. Long-Run Influence of CU On Its Readers: A Benefit-Cost Analysis

	Benefits/Costs Arising from CR Articles on:	
	Product Tests	General Consumer Advice
I. Benefits		
A. Reduced Search Costs		
B. Better Choices of Products		
1. Better Quality		
a. Longer Lived Product		
b. Fewer Repairs (Durables)		
(1) Money saved		
(2) Time saved (less "down" time; less reparation		
c. Accidents avoided		
d. Subjective Satisfaction with purchase		
2. Better Health		
a. Longer life		
b. Reduced insurance/ medical costs		
c. Subjective Satisfaction with life		
II. Costs		
A. Subscription to CR		
B. Missed Benefits		
1. Could not follow advise (recommended products not available).		
2. Actually purchased inferior, non-recommended variety		

THE INFLUENCE OF A CONSUMERS UNION: THE ASSOCIATION DES CONSOMMATEURS OF BELGIUM

Ir. A deWasch, Association des Consommateurs, Brussels[1]

ABSTRACT

This paper seeks to document the influence of the Association des Consommateurs (the Belgian Consumers Union) and its magazine, Test-Achats, on consumers and, to a lesser extent on retailers and manufacturers. Specifically, the paper reports on surveys of these three groups. Results show that Test-Achats has a strong influence on its readers. They rely heavily on it for general product information and also for help in brand-model choices. The paper also reports on the nature and extent of cooperation among the European consumer product testing organizations.

INTRODUCTION

Ladies and gentlemen I am going to cheat a little bit. Though the title assigned me was, "The Influence of the Consumer Unions, An International Perspective," I am mainly going to talk about a survey just carried out in Belgium on the impact and the use of our magazine by our readers.

Belgium is a small country with a population of 9,800,000. Our "Consumer Reports," Test-Achat, by name, has 300,000 subscribers. Since each copy is read by at least 2 families, we reach about 20 percent of Belgian families. Given this, it would be natural to assume that we influence the market. But is it really so? And how big is our influence? From earlier research we know that consumers do not become subscribers simply because they want to support a consumer organization. Instead, they buy to obtain the information we give them. The more valuable the information, the bigger the incentive to subscribe and to renew. What makes any consumer magazine unique is its comparative test information. It is this that accounts for the success of the consumers unions of the world. People are willing to pay for several reasons: they want unbiased information; they believe that the use of our product test information will save them money; our magazine will keep them from buying unreliable appliances and unsafe products (health, safety aspects); our magazine will enable them to choose the best products or those products with the highest ratio of quality to price. They can make these decisions for themselves, using their own preferences with regard to test criteria.

Over time consumer organizations have carried out a lot of market research to help them decide on what products and services to test and how to optimize the content of their magazines. Surprisingly little has been done to find out how consumers use product test information, whether and how it changes their buying behavior, and consequently, how all this affects the market.

What we know from our annual Reader Surveys is that their expectations are ever changing. Our readers have become more demanding: they want better brand coverage, more products tested, more general information about what type of appliance to buy, etc. In other words, they want us to become more problem solving on their behalf. For example, if we want to test freezers, we must start with a brief description of the different types of freezers (chest, upright, refrigerator-freezers), the advantages-disadvantages of each type, double insulated versus ordinary, which size for which family, etc.). Then we present the results for one set of appliances. Where possible, we try to say something about the effect of the product on the environment. If available, data on reliability and durability will be added and also something regarding financing. We pay great attention to the presentation of test results. Our goals: easily readable, clear, short, well illustrated articles.

In 1983 we carried out a survey among readers and ex-readers. Since then, much has changed. Now there is more emphasis on the quality of life, sensitivity to environmental effects, better products, better eating habits, enjoying life more. All this is possible because the today's consumer is more affluent.

THE INFLUENCE OF TEST ACHATS (TA): REPORT OF A SURVEY IN 1990

Turning back to today's topic--the influence of the consumer unions, I present the results of a survey recently carried out in Belgium on how our magazine influences the decision-making of our readers and how this affects consumer markets.

A mail survey was carried out with a representative sample of readers of TA to find out how they use our magazine in purchasing four kinds of products: (1) household appliances, (2) TV-Video-Stereo, (3) food and (4) detergents.

A similar survey of non-readers was carried out by personal interviews in the same geographic areas.

Manufacturers, importers and distributors were also interviewed as to our impact on them.

In analyzing the survey, we made adjustments to assure that results from mail interviews were comparable with those based on personal interviews.

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[1] Technical Director.

Table 1 reveals that both readers and non-readers of TA rely heavily on product comparisons. But readers of TA are much less likely to buy on impulse.

Table 2 provides qualitative data on the sources of information on which Belgian consumers rely. For readers, TA is the dominant source while non-readers rely chiefly on "specialists." Patterns of information use are similar for household appliances and TV-Video.

Apart from comparative test information that we provide in tabular form, we identify brand-models that are superior in overall quality as well as "Best Buys." Best Buys are brand-models providing the highest quality per dollar spent. In the past Best Buys were our "trade mark," our most sought after single piece of information.

Table 3 presents data on how our readers use the information we provide. As the table shows, our readers no longer regard "Best Buys" as the most influential information we provide. Instead, they're interested in quality per se, regardless of price. In addition, a large percent of readers (roughly one-third) are looking for general information, not specific recommendation. It is comforting to find that only 10 to 16 percent found the information TA provided "insufficient." In addition, purchasers of large vs. small appliances did not differ in their use of information from TA.

Besides these users of our information, 9.7% of readers did not consult TA at all in making purchases.

What information do our readers want? Table 4 tells the story. First and foremost, they look for information that comes from our product testing: overall quality ratings, Best Buys, and ratings on characteristics they are least

TABLE 1. Sources of Information Used in Purchases

	Household Appliances		TV-Video	
	Readers	Non-Readers	Readers	Non-Readers
I have used little information and bought quickly	12.7%	26.6%	14.6	22.4
I compared several appliances before buying	70.7%	55.3%	68.5	66.4
I consulted friends or acquaintances	16.6%	18.1%	16.9	11.2
TOTAL	100.0%	100.0%	100.0%	100.0%

TABLE 2: Importance of Various Sources of Information

	Household Appliances		TV-Video	
	Readers	Non-Readers	Readers	Non-Readers
Test-Achat	++	--	++	--
Advertisement	-	0	0	0
Publicity	0	+	+	+
Specialists	0	++	+	++
Sellers	--	0	--	0
Friends	0	+	+	+
Window	--	0	-	0

+	important	-	not very important
++	very important	--	not important at all
0	average importance		

interested in information on service and guarantees.

IMPACT ON MANUFACTURES, IMPORTERS AND SELLERS

To measure this impact, we asked a sample of importers, manufacturers and distributors whether our recent tests on washing machines influenced their activities. While it is not possible to quantify the impact exactly, they all reported that a favorable test result increases their sales from a few percent to as much as 100%. We also discovered that if the TA-recommended model is not available, consumers tend to buy the model which replaces the recommended or appears most similar to the model we tested. Thus, although we tell our readers over and over again that our recommendations are only valid for the particular model we have tested, they tend to extrapolate our quality judgments from the tested model to the brand as a whole. Understandably importers of brands that earned least favorable ratings

TABLE 3: The Use of Information from Test-Achats by Readers

	Household Appliances	TV-Video
I bought the Best Buy	13.0%	5.7%
I bought a different model of the Best Buy Brand	6.2%	6.7%
I bought a TA "High Quality" model, Not the Best Buy	7.5%	33.0%
I consulted TA but bought Brand-Model not recommended by TA	3.8%	6.1%
I consulted TA for general information	29.3%	32.2%
I did not find sufficient, up-to-date information in TA	10.2%	16.3%
TOTAL	100.0%	100.0%

TABLE 4: Type of Information Sought in Test-Achats by Readers

	Household Appliances	TV-Video
1. Quality	71.6% ++	65.5% ++
2. Comparative test information	61.2% ++	58.0% ++
3. Best Buy designation	67.3% ++	61.3% ++
4. Price	53.2% +	46.8% +
5. Technical information	41.9% 0	38.1% 0
6. Cheapest selling points	35.1% -	33.6% 0
7. Information on service	19.6% --	14.7% --
8. Information on guarantees	21.2% --	15.9% --
9. Security	39.4% -	18.3% ++

were less inclined to answer our questions. One of them (Friac) told us that the sales of the tested model had dropped. As a result, they stopped the sales of this model and replaced it with another. Similar results were obtained from distributors and retailers. These groups contribute to the reaction process because often they stop ordering products that receive bad ratings.

In the case of TV-Video-Stereo we face quite different problems. Our test results are short-lived because models change very frequently. Sometimes a model tested is no longer available by the time Test-Achats comes out. One distributer told us that our publication sometimes boosts an entire type of product. According to him, T-A's article on shortwave radios increased the sales of many brands. It was as if consumers were waiting for some sign before making up their minds as to whether buying a short wave radio was worthwhile.

With respect to Video-Stereo it looks as though consumers are more inclined to use our test results to define their own Best Buys. The more a consumer is personally involved, the more frequently the consumers make up their own minds.

FOOD AND DETERGENTS

I will not repeat the same exercise for foods and detergents. What consumers of these products really want is quality. They also want to find out whether and how such products might be dangerous to their health (additives, pesticides, residues, hormones, etc.) and, in the case of detergents, whether they are not harmful to the environment. The effect of TA on their buying decisions is similar to the effect TA has on purchases of household appliances and TV-Video. Distributors and especially large supermarkets react immediately to an unfavorable rating. Very often the downrated brand is taken off the shelf immediately and replaced by a modified product. Both distributors and retailers realize that consumers are becoming more and more quality conscious.

The impact of TA in the food area is illustrated by a story told by a major distributor (GB). When TA labeled one of their wines a Best Buy, sales in the period increased from 4,000 to 48,000 bottles!

It is also clear that, in using our publication for food shopping, consumers are unwilling to visit a second supermarket even if there are gains to be had. Finally, the impact of our test results are strictly limited in time.

To summarize:

- For most products *Test-Achats* has an impact on consumers and on the market.
- People attach more importance to quality *per se* than in the past.
- The more complex a product is and the more involved is the consumer in the buying process, the more personalized his Best Buy must be. We consumer product testing organizations have to adapt to this situation and to carry out more research to identify various segments of the population and to match our Best Buys to the needs of each segment.
- In general, the effect of our product tests is short-lived.
- When a recommended model of a product is not available, people tend to switch to the closest model of the same brand.

INTERNATIONAL COOPERATION BETWEEN CONSUMER ORGANIZATIONS

There is a rather good cooperation between the Consumers Unions of Europe in the field of testing. For some time 18 CU's have been working together in what has been known as the European Testing Group, just renamed "The International Consumer Research and Testing Group." Such cooperation is a must. Why? Because all across Europe, in preparation for 1992, manufactures are merging into larger and larger organizations. The only response for us, if we want to be heard and respected, is to do the same thing. How can a consumer organization in one country influence a Europe-wide manufacturer? Only by having a structure that enables us to present our product test results all over Europe at the same time.

Some important manufacturers, Philips to name one, have staff members whose sole responsibility is to keep track of our activities. From time to time they point out discrepancies between test results for identical product sets published by different organizations. Not only is this highly embarrassing for our organizations, but it discredits comparative testing as an appropriate methodology for assessing quality. Joint testing by consumer product testing organizations has several advantages: smaller costs per partner, harmonization of test procedures, a larger impact due to simultaneous publications in different countries.

One of the other goals of the European Testing Group to help younger consumer organizations get off the ground and to become self-supporting. This is very important because in countries like Spain and Italy, consumer organizations are less developed as compared to the North of Europe.

We live in interesting times with many changes taking place everywhere. Consider Eastern Europe. If we want to remain important in Europe and to defend efficiently the interest of the consumers, then the CU's will have to pool their efforts and work together closely. Worldwide, consumers will be better served by closer cooperation between CU's across the world.

ANALYSIS OF HEALTH CARE EXPENDITURES WITH FAMILY INCOME AND LIFE CYCLE STAGE

COMMENTS

Daigh Tufts, The University of Utah[1]

I would like to begin my comments by complimenting the committee on a fine choice for the Master's thesis award. I would like to compliment Sara Stiefvater on a fine thesis.

Sara has worked on an important consumer problem, one that is a major area of national policy debate. As Marilyn Moon noted this morning, health care costs are a problem that is likely to occupy researchers and policy makers for at least the next couple of decades. Health care in America consumes nearly 12% of our GNP, our total productive capacity. This share has been rising and will continue to rise in the foreseeable future.

Health care provision is possibly the most distorted market, distorted from the normal rules of supply and demand. Among the reasons for these distortions are the 'special' nature of need for health care and the very important role of third party payment, by both government and the insurance industry. In many ways the normal feedback mechanisms of price and quantity demanded are uncoupled in this market.

Sara has crafted a research project that begins to untangle some of the major issues in health care utilization. In a nutshell, Sara has examined out-of-pocket expenditures (the ones that matter when estimating demand, since these are the 'prices' to which consumers respond) for health care at different life-cycle stages for different health care categories. This means that Sara provides explicit recognition of the different needs for types of health care at varying life-cycle stages.

Sara's thesis begins with an up-to-date review of the relevant literature, and a careful presentation of her research question and related hypotheses. It should be noted that later in presenting her empirical results she duly notes where her empirical findings are in accordance with her hypotheses and where they are not.

The heart of Sara's thesis is found in three sets of tables. The first (Table 5 and Appendix A) presents the probabilities of households in each of six family types reporting any out-of-pocket expenditure on each of seven health care categories. Out-of-pocket expenditure does vary across life-cycle stage and health-care category. Sara utilities chi-square statistics to demonstrate that within each health care expenditure category each life-cycle stage has a different likelihood of out-of-pocket expenditure. Conclusion -- life-cycle stage is associated with out-of-pocket expenditure.

An overview of the entire 6x7 table of life-cycle stage by expenditure category reveals that single-parent households are almost always the least likely to have out-of-pocket expenditures for any category (6 out of 7 categories) and that empty-nest families (older couples with children gone) are the most likely (4 out of 7 categories) to have out-of-pocket expenditures.

The second important table (Table 6) presents multivariate regression results predicting out-of-pocket expenditures (for those who have out-of-pocket expenditures) from income, life-cycle stage, and regional variables. In general she finds that nearly all independent variables are significant, meaning that life-cycle stage is related to the amount of expenditure. Sara provides explanations and interpretations of these results.

Unfortunately, I place less credibility in her results than she does. Table 6 presents extremely high F statistics (a high F statistic indicates a very good model) and low to very low R^2 (amount of variation in out-of-pocket expenditure explained by the model). The R^2 for these models indicates that the various models account for 8% or less of the variation in out-of-pocket expenditure in the health care categories (5 of the 7 health care expenditure categories have R^2 of 2% and less). The very high F statistics and very low R^2 are basically contradictory and require explanation. These regressions are estimated using the Bureau of Labor Statistics weights, which may have the effect of inflating the sample size to the population size (millions), which inflates the F statistics. I suspect that the t-statistics on the significance level of the independent variables are also over inflated. This is essentially an accounting problem in the statistical estimates, and one I assume can be dealt with rather easily. The potential for inflated t-statistics and the F statistic accounts for most of my skepticism about the results and the interpretation of the estimated coefficients.

There are two other potential problems with the model I would like to address, although they are beyond the expectations for a Master's project. These are brought up more to remind all of us of the econometric difficulties in working in these areas. The first is to note that the low R^2 suggests that most of the variation in out-of-pocket expenditure is not explained by the model. If there are variables related to both out-of-pocket expenditures and variables currently in the model, then there is a problem of omitted variable bias, and the model coefficients may well be biased.

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A more difficult problem to address is that many households reported no out-of-pocket expenditures for some health care categories and thus were not included in the regression models for those categories. Estimating out-of-pocket expenditures for only those households reporting such expenditures leaves unaddressed the question of why some households have these expenditures and others do not. Health care expenditure is really a two part decision. The first issue is what determines which households purchase care from a particular health care category, and the second issue is how much do they spend. There are techniques to deal with this problem (most commonly Tobit analysis), but they are not generally introduced to master's students.

The third set of important tables (Tables 7 to 13) in this thesis provide estimations of the dollar amount and share of out-of-pocket expenditure for each health care category and for each life-cycle stage based on the regression results. Focusing on TOTAL expenditure, it is interesting to note that single parent households have low expenses (dollar amount) but spend a larger share of income on health care than other families with children. Sara notes the potential policy implications that single parent households may be at risk of not acquiring enough health care. She also notes that empty-nest families exhibit high expenses and a high budget share. This may indicate risk by this group, or it may merely indicate a normal shift in expense patterns by the elderly.

Criticisms aside, what has Sara accomplished? Her thesis is extremely well written and easily read. She has done an excellent job of conceptualizing a problem and providing an innovative approach to examining out-of-pocket expenditure by life-cycle stage and health care category. Her results are in general intuitively plausible and informative. I would have liked to see better statistical documentation of their significance. Her concluding chapter on limitation and implications is well written and provides a springboard for further research in this area. This thesis is a remarkable piece of work at the Master's level. I encourage Sara to continue to bring this type of intellectual capacity and energy to consumer issues.

CHARACTERISTICS OF USERS OF FIVE CONSUMER SHOPPING STYLES

Norleen M. Ackerman, Utah State University[1]
Leona K. Hawks, Utah State University[2]

The purposes of the study were to identify general shopping styles of consumers and to describe users of each style by demographic characteristics. A sample of 472 recent purchasers was drawn from cooperating retailers. Factor analysis and one-way analysis of variance were used. Five shopping styles were extracted and characteristics related to the styles were identified.

Can consumers be classified into a small number of shopping styles they generally use for a wide range of purchases? Literature has identified certain shoppers as economizers, satisficers, maximizers or information seekers (Simon, 1957; Thorelli, Becker & Engledow, 1975) and has identified shopping styles for single products and product categories. However, little has been done to develop a general shopping style typology (Sproles & Kendall, 1986; Ackerman & Windley, 1987).

The purposes of the study were to identify general shopping styles of consumers and to relate those styles to demographic characteristics.

METHODS

A sample of recent purchasers of electronic household durable goods was drawn from the sales invoices of randomly selected retailers in one geographic area, which encompassed metropolitan and regional shopping centers. Data were collected by mailed questionnaires in 1988 using a modified Dillman procedure. The sample size was 472 and the response rate was 59%.

Principal axis factoring and varimax rotation were used to identify shopping style factors. Estimated factor scores were computed by the regression method and standardized by the z-score procedure. One-way analysis of variance identified demographics which were significantly related to shopping styles at the .05 probability level.

FINDINGS

The five factor solution was selected for further analysis. Factor 1, a value-for-money style, received loadings of .40 or more on 6 statements and explained 14% of the variance. These shoppers tended to delay purchase when they didn't have enough information or time, sought a wide range of choices, and usually compared several brands before choosing. Factor 2, the recreational style, loaded on 4 statements which explained 10% of the variance. These shoppers enjoyed shopping, and often shopped when they did not plan to buy.

Factor 3, the cue-user style, loaded on 3 statements which explained 7% of the variance. These shoppers believed price indicated quality, that expensive brands were usually best, and were willing to pay more for better quality. Factor 4, the high quality seekers, loaded on 3 statements which explained 4% of the variance. These shoppers tried to choose the very best quality, had high standards for products, and usually bought the newest models, styles and designs. Factor 5, the regretful-confused style, loaded on 3 statements and explained 3% of the variance. These shoppers often made purchases they later regretted, were confused by increased information, and tended to buy the first product that was good enough.

Value-for-money and high quality style users did not differ on demographic characteristics tested. Those scoring highest on the recreational style were most likely to be under age 30, female and employed part time. Cue-users were most likely to have a college degree, be male, not married and living in 1-2 person households. Regretful-confused shoppers were most frequently age 60 or over, had a high school education or less, had an annual income of under $30,000, were not married and lived in 1-4 person households.

IMPLICATIONS

Consumers can be segmented into general shopping styles. Educators could target product information to specific consumer segments. Consumers could consider the strengths and weaknesses of their preferred shopping style. Researchers could use shopping styles in further analysis on product satisfaction and well-being.

REFERENCES

Ackerman, N.M., & Windley, L.K. (1987, April). Consumer decision-making styles. Paper presented at NCR-116, St. Louis, MO.

Simon, H.A. (1957). Models of man. New York: John Wiley & Sons.

Sproles, G.B. & Kendall, E.L. (1986). A methodology of profiling consumers' decision-making styles. Journal of Consumer Affairs, 20, 267-79.

Thorelli, H.B., Becker, H., & Engledow, J. (1975). The information seekers. Cambridge, MA: Ballinger Publishing Co.

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TEENAGERS WORK EXPERIENCE

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Introduction

In the mid-70's and early 80's several groups called for earlier and more deliberate integration of adolescents into the workplace. It was anticipated that adolescent workers would receive the added benefits of skill development, interaction with adults, increased academic motivation, exposure to work attitudes and habits, and the opportunity to learn financial responsibilities (Peters, 1987). However there is some evidence (Greenberger and Steinberg, 1986 and others) that the massive influx of young workers in the work force has had some negative and unforeseen consequences in terms of adolescent's socialization, education, family relationships, and attitudes about work.

In this exploratory study the authors were particularly interested in finding out 1) the effect of work on adolescents social life, family relationships, and school performance as perceived by the employed students, their non-employed peers and their parents, 2) the skills used and/or developed by employed students in their jobs 3) students motivations or reasons to work 4) the perceived relationship between present job and career goals.

Sample and Procedures

The random sample for this study consisted of 68 juniors and seniors at Mason City High School, Mason City, Illinois and 16 parents of employed students. Of those 68 students, 27 were employed and 41 were not employed at the moment of the survey. Data were collected by means of self-administered questionnaires. Several open-end questions provided additional information.

Findings

Seventy-seven percent of the working students indicated that at least occasionally they give up school activities or outings with friends to work. Non-employed students, however, perceived work as having much less impact on their social activities - only 37% indicate that as workers they would occasionally have to give up school activities or outings with friends to work.

While there is not a significant difference between the GPA of employed and non-employed students, a slightly higher percentage (44%) of the employed students carried a 3.0 or better GPA as compared to 41% of the non-employed. Interestingly though for 30% of the workers their grades improved, for 49% they stayed the same, and for 21% the grades dropped slightly after they started working. A difference of opinion exists regarding the number of work-related arguments perceived by the employed students and their parents. Twenty-four percent of students compared to 63% of their parents indicated that they argue occasionally about the teenager's work. However over half of the students workers believe work has affected their relationship with their parents.

Over 65% of the employed students never used or have opportunity to develop such skills as typing, telephone usage, mathematics, and writing in their present job. On the other hand 63% reported contact with the public in their present positions.

The most important reason why employed students were working was to make money according to employed students and their parents. Sixty-three percent of the employed students felt their present job was preparing them at least somewhat for their future career. However they listed "preparation for a future career" among the least important reasons for working.

Conclusions

There could be some positive as well as negative consequences of employment on adolescents. Some of the negative consequences seem to be related to adolescent's socialization, family relationships motivation for work, and lack of skills development.

Due to the exploratory nature of this study and the small sample size recommendations and implications based on these data are not possible. A larger sample, more representative of the teenage population in the United States, is recommended for further research on this topic.

REFERENCES

Greenberger, E. and Steinberg, L.D. (1986). When teenagers work. New York: Basic Books. Inc.

Peters, J.F. (1987). "Youth, family, and employment," Adolescence, 22, 465-473.

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IDENTIFYING CAREGIVER SKILLS

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The purpose of this research was to gather data on necessary skills to care for non-institutionalized elderly based on perspectives of interdisciplinary professionals. This information can then be used to formulate curriculum in home economics, a discipline traditionally interested in the family life cycle and its interaction with society.

INTRODUCTION

The task of giving care to elderly relatives has become more complicated with changing demographics. Most elderly desire to continue living alone in their own homes and most do. The family of the future may be unable to continue being the primary support of the elderly in society, even though they remain the preferred caregiver.

METHODOLOGY

This descriptive study used the survey method to send questionnaires to 225 professionals, who were members of three professional organizations of nurses, gerontologists, and home economists. The questionnaire asked respondents to rate 56 skills in caregiving identified through syllabi from a university home economics curriculum. A demographic data form was also included to help characterize the sample. These skills and questions were approved by a panel of judges. A pilot study was conducted and skills and demographic data forms were approved. A high percentage of questionnaires were returned by 60% of the nurses, 67% of the gerontologists, and 80% of the home economists. These questions were analyzed using descriptive statistics of mean, median, and standard deviation. Surveyed opinions of 155 respondents provided the data.

RECOMMENDATION

The findings included the identification of 35 important skills for caregivers of the non-institutionalized elderly. Results determined that the personal/family relations subject area was the most highly ranked one for necessary training, followed by home management/consumer education, and foods/nutrition. Skills in housing and clothing and textiles were ranked as less important. It was recommended that a holistic multi-disciplinary approach be used with home economists providing expertise in the teaching of skills related to home economics with contributions from other disciplines to strengthen and prepare caregivers for future demands.

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CONSUMER MESSAGES TO CONGRESS: A HISTORICAL RECORD

Elizabeth M. Dolan, University of New Hampshire[1]

In 1962, President John F. Kennedy sent a Consumer Message to Congress. It was to be the first of eight Consumer Messages by five Presidents, a tradition that lasted until President Reagan took office in 1981. Kennedy's Message is by far the most well-known. The introduction gave us the Consumer Bill of Rights: the right to safety, the right to be informed, the right to choose, and the right to be heard. The thrust of this message, and all the subsequent messages, is programmatic. The messages outline what the President believed were the pressing consumer issues of the year and what steps Congress and the administrative agencies should take to alleviate the problems.

The following Table identifies the proposals made in each of the eight Messages and lists the resulting legislative and administrative actions. Additional actions are also given which expand upon the proposals or follow in the spirit of the proposals. This is not an attempt to identify every regulatory action in the consumer interest since 1962. Most conspicuously absent are the many energy and environmental actions as these were mentioned in the Messages only in relation to auto air pollution and utility costs.

These eight Messages provide an excellent historical framework for reviewing the important consumer issues of the 1960s and 1970s. Following proposals through subsequent Messages provides a vehicle for assessing the degree of opposition to certain proposals. For example, the call for Truth-in-Lending legislation appeared in four Messages. Some proposals have never been enacted. The Messages can also be used to analyze the timing of certain proposals. Also, the progression of legislative actions on a particular proposal can be assessed. In an number of cases, Congress went beyond what a President had proposed to handle a certain issue.

The Presidential Consumer Messages to Congress serve an important historical function. They served to direct Congress toward what the President considered to be the vital consumer issues. And now we can look at the proposals as providing a framework from which to view the legislative progress of the third wave of the consumer movement. The Table can be utilized by consumer educators in a number of ways.

REFERENCES

Carter, J. 1977. "Consumer Proposals." House of Representatives Doc. No. 95-119, April 6. [Carter]

Ford, G.R. 1975. Presidential Letter to Congress, Presidential Papers, Nov. 19. [Ford]

Johnson, L.B. 1964. "The American Consumer." House of Representatives Doc. No. 88-220, Feb. 5. [LBJ.1]

Johnson, L.B. 1966. "Consumer Interests." House of Representatives Doc. No. 89-413, March 21. [LBJ.2]

Johnson, L.B. 1967. "American Consumer Protection." House of Representative Doc. No. 90-57, Feb. 16. [LBJ.3]

Johnson, L.B. 1968. "The American Consumer." House of Representatives Doc. No. 90-248, Feb. 6. [LBJ.4]

Kennedy, J.F. 1962. "Consumers' Protection and Interest Program." House of Representatives Doc. No. 87-364, March 15. [JFK]

Nixon, R.M. 1969. "Protection of Interests of Consumers." House of Representatives Doc. No. 91-188, Oct. 30. [Nixon.1]

Nixon, R.M. 1971. "Buyer's Bill of Rights." House of Representatives Doc No 92-52, Feb. 25. [Nixon.2]

CONSUMER PROPOSALS AND SELECTED GOVERNMENTAL ACTIONS 1962-1989

RECOMMENDATION	ACTIONS TAKEN	Related Actions in Food & Drug Safety
I. Food and Drug Safety		
Increased inspection in food processing, poultry and meat packing, and drug manufacturing (JFK; LBJ.1)	1962 FDA Current Good Drug Manufacturing Practice Rule 1969 FDA Current Good Food Manufacturing Practice Rule 1974 Perishable Agricultural Commodities Act Amendments	1972 Federal Water Pollution Control Amendments 1974 Safe Drinking Water Act 1976 National Consumer Health Information & Health Promotion Act 1977 FDA Chlorofluorocarbon Labeling Rule 1977 FDA Acrylonitrile Bottles Rule 1978 USDA Sodium Nitrite in Bacon Rule
Strengthen meat inspection in conjunction with states (LBJ.3)	1967 Wholesome Meat Act	
Increased inspection for poultry products (LBJ.4)	1968 Poultry Inspection Act 1970 Egg Products Inspection Act	
Increased inspection for fish and fisheries (LBJ.4)		
Review GRAS substances for safety (Nixon.1)	1970 FDA Cyclamate Rule 1977 Saccharin Labeling Act	

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Nutritional labeling program (Nixon.2)	1973 FDA Nutrition Labeling Rule 1984 FDA Sodium Content Labeling Rule
Unsafe, ineffective drugs to be removed (JFK)	
Devices to be tested for safety and effectiveness prior to marketing (LBJ.1,2,3; Nixon.1)	1976 & 1984 Medical Device Amendments 1977 FTC Hearing Aid Rule 1978 FDA Good Manufacturing Practices for Medical Devices Rule
Drugs to be tested for safety and effectiveness prior to marketing (JFK)	1962 Kefauver-Harris Drug Amendments 1985 Revised FDA Drug Efficacy Rule
Cosmetics to be tested for safety prior to marketing (JFK; LBJ.1,2)	**Related** 1976 FDA Cosmetic Labeling Rule
Warning labels for drugs, cosmetics and pressurized containers (LBJ.1,2)	1965 Hazardous Substances Act Amendment 1970 Poison Prevention Packaging Act
Regulate pesticides (JFK; LBJ.1)	1972 Federal Environmental Pesticide Control Act
Assignment of generic names to drugs (JFK)	1962 Kefauver-Harris Drug Amendments 1972 Drug Listing Act
Control barbiturate and amphetamine distribution (JFK)	1965 Drug Abuse Control Act 1966 Narcotic Addict Rehabilitation Act 1970 Controlled Substances Act 1970 Controlled Substances Import and Export Act 1972 Drug Abuse Prevention, Treatment and Rehabilitation Act
Recording of drug experience and certification of all drugs (LBJ.2)	
Identification of drugs (Nixon.1,2)	1972 Drug Listing Act 1975 FDA Voluntary National Drug Code
FTC to require drug advertising to physicians to disclose safety and efficacy (JFK)	
Licensing of clinical laboratories to meet standards (LBJ.3)	1967 Clinical Laboratories Licensing Amendments 1988 Clinical Laboratory Regulation Act
End use of pesticides prior to market clearance (LBJ.1)	

1979 FDA & USDA Diethylstilbestrol (DES) Rule
1980 FDA Liquid Protein Rule
1982 FDA Tamper Resistant Packaging Rule
1982 FDA Infant Formula Quality Control Procedures Rule
1983 Orphan Drug Act
1986 BATF Alcoholic Beverage Definitions Rule
1987 USDA Fresh & Processed Meats Labeling Rule
1988 FDA Aspirin Labeling for Reyes Syndrome Rule

II. Product Health and Safety

Extend protection from hazardous products to children (LBJ.2)	1966 Child Protection Act 1969 Child Protection and Toy Safety Act 1971 Lead-Based Paint Poisoning Prevention Act and 1974 Amendments 1972 Consumer Product Safety Act 1984 Toy Safety Act 1987 CPSC All-Terrain Vehicle Ban
Establish National Commission on Product Safety (LBJ.3; Nixon.1)	1967 National Commission on Product Safety
Strengthen Flammable Fabrics Act (LBJ.3)	1967 Flammable Fabrics Act Amendments
Initiate a fire research program and promote fire prevention education (LBJ.3)	1969 Fire Research and Safety Act 1974 Federal Fire Prevention and Control Act
Minimum safety standards for gas pipelines (LBJ.1)	1968 Natural Gas Pipeline Safety Act
Safety standards for radiation yielding products (LBJ.4)	1968 Radiation Health and Safety Act
Establish recreation boat safety programs and standards (LBJ.4)	1971 Federal Boat Safety Act
Create consumer product safety organization to promote safe products and safe usage of products (Nixon.2)	1972 Consumer Product Safety Act 1976 and subsequent Reauthorization and Improvement Acts
Premarket testing for all products (Nixon.2)	

Related Actions in Product Health & Safety

1969 National Environment Policy Act
1970 Occupational Health & Safety Act
1972 Noise Control Act
1972 Youth Camp Safety Investigation Act
1976 Solid Waste Disposal Act
1977 Toxic Substances Control Act
1978 Home Insulation Safety 'Act

III. Transportation Safety and Health

HEW, Commerce and auto industry to review design changes aimed at increased safety and decreased air pollution (JFK)	1963 Clean Air Act and subsequent Amendments 1965 Motor Vehicle Pollution Control Act 1966 National Traffic and Motor Vehicle Safety Act 1966 National Highway Act 1967 Air Quality Control Act 1969 National Environmental Policy Act 1970 National Highway Traffic Safety Act 1971 NHTSA Occupant Protection in Interior Impact Rule 1974 Emergency Highway Energy Conservation Act 1977 NHTSA Bumper Standard 1977 NHTSA Passenger Automobile Average Fuel Economy Standards 1979 NHTSA Tire Identification Rule 1982 EPA Lead Content in Gasoline Standards 1982 Diesel Engine Emission Standards 1983 NHTSA Third Brake Light Rule 1984 NHTSA Passenger Car Safety Rule
FAA to design an improved air traffic control system (JFK)	

Related Actions in Transportation Safety & Health

1970 Traffic & Motor Vehicle Safety Amendments
1972 Motor Vehicle Information Information & Cost Savings Act
1974 Motor Vehicle Safety Act Amendments
1974 Motor Vehicle & School Bus Safety Amendments
1975 Auto Recall Repair Act
1984 Motor Vehicle Theft Law Enforcement Act
1984 DOT Commercial Airline Smoking Rule
1986 Truth-in-Mileage Act
1989 Airline Smoking Ban Act

IV. Financial and Credit Protection

SEC investigation of securities industry to serve as basis for later legislation (JFK)	1970 Securities Investor Protection Act 1970 Investor Protection Amendments to Securities Exchange Act of 1934 1974 Commodity Futures Trading Commission Act
Disclosure for over-the-counter securities (LBJ.1)	1964 Amendments to the Securities Act of 1933
Safeguards against unscrupulous practices in interstate land sales (LBJ.3)	1968 Interstate Land Sales Full Disclosure Act
Mutual fund investor protections (LBJ.3)	1970 Investment Company Amendments Act

Related Actions in Financial & Credit Protection

1969 Bankruptcy Amendments
1970 Bank Holding Company Act
1970 Share Insurance Amendments to the Federal Credit Union Act
1974 Real Estate Settlement Procedures Act

Truth-in-lending (JFK; LBJ.1,2,3)	1968 Consumer Credit Protection Act & 1969 FRB Regulation Z
National Commission on Consumer Finance to review credit practices (Nixon.1)	1970 Credit Card Act 1970 Fair Credit Reporting Act 1974 Fair Credit Billing Act 1974 Equal Credit Opportunity Act & 1975 FRB Regulation B 1976 Equal Credit Opportunity Act Amendments 1976 Federal Deposit Insurance Act 1976 FTC Holder-in-Due-Course Rule 1977 Fair Debt Collection Practices Act 1978 FRB/FDIC Consumer Fund Transfer Rule 1980 Truth-in-Lending Simplification and Reform Act 1985 FTC & FRB Credit Practices Rule 1985 FRB Rule Limiting Telephone Credit Card Liability 1986 Fair Debt Collection Practices Act Amendments
Employee protection in private pension plans (LBJ.3)	1974 Employee Retirement Income Security Act
Stepped-up enforcement of mail fraud statutes (JFK)	1970 Mail Fraud Act 1977 Mail Fraud Solicitation Act 1987 USPS COD Payment Rule

1975 & 1977 Federal Credit Union Amendments
1976 Consumer Leasing Act
1976 Real Estate Settlement Procedures Amendments
1978 Electronic Funds Transfer Act
1980 Depository Institutions Deregulatory & Monetary Control Act
1982 Depository Institutions Act
1987 Expedited Funds Availability Act

V. Information and Representation at the Federal Level

Make current information more available to consumers (JFK; Nixon.1)	1970 Executive Order 11566, Consumer Product Information
Council of Economic Advisors to create a Consumer's Advisory Council (JFK)	1962 President's Consumer Message to Congress
President's Committee on Consumer Interests and the Consumer Advisory Council (LBJ.1)	1964 Executive Order 11136, Establishing the President's Committee on Consumer Interests 1967 Executive Order 11349, Amending Executive Order 11136
Create Office of Consumer Affairs (Nixon.1,2)	1971 Executive Order 11583, Office of Consumer Affairs
Each federal agency to designate a special assistant for consumer affairs (JFK)	1979 Executive Order 12160, Enhancement and Coordination of Federal Consumer Programs
Appoint a consumer division within Justice (LBJ.4; Nixon.1,2)	
Consumer Advocate at the federal level (Nixon.2; Carter)	
Postmaster General to begin a pilot program for the dissemination of consumer information in post offices (JFK)	
Expand consumer education programs especially in adult education (LBJ.1; Nixon.1,2; Ford)	1972 Education Amendments 1974 Education Amendments (creating position of director of consumer education in Office of Education)
Consumer education programs for those in poverty (LBJ.2; Nixon.1)	1974 Head Start Economic Opportunity and Community Partnership Act
Funds for citizen participation in agency & judicial proceedings (Carter)	1980 Dispute Resolutions Act
Expand opportunities for class action lawsuits (Carter)	

Related Actions in Information & Representation at the Federal Level

1966 Public Information Act
1974 Freedom of Information Act
1974 Privacy Act
1976 Government in the Sunshine Act

VI. Vigilance against Monopolies

FTC to be given power to issue cease and desist orders (JFK; LBJ.1; Nixon.1,2)	1973 Trans-Alaska Pipeline Authorization and Federal Trade Commission Improvements Act 1975 Magnuson-Moss Warranty and Federal Trade Commission Improvements Act
Companies must give notice of mergers in advance to Justice (JFK)	1974 Anti-Trust Procedures and Penalties Act 1976 Hart-Scott-Rodino Anti-Trust Improvement Act

VII. Effective Regulation of Business Practices

CAB: airline overbooking (JFK)	1978 CAB Airline Overbooking Rule 1982 CAB Airline Overbooking Ruled Modification
FCC: television program selection and promotion of educational television (JFK)	1962 All-Channel Receiver Act 1967 Public Broadcasting Act & 1981 Amendments
FPC: regulation of utility rates (JFK)	1978 Public Utilities Regulation Policy Act 1978 Natural Gas Policy Act
FTC: deceptive trade practices and false advertising (JFK; LBJ.4)	1963 FTC Sleeping Bag Advertising and Labeling Rule 1965 FTC Previously Used Lubricating Oil Advertising and Labeling Rule 1969 FTC Games of Chance Rule 1971 FTC Advertising Substantiation Program 1971 FTC Availability of Advertised Specials Rule & 1989 Revision 1975 Magnuson-Moss Warranty and Federal Trade Commission Improvements Act 1978 FTC Franchise and Business Opportunities Rule 1978 FTC Advertising of Ophthalmic Goods Rule 1978 FTC Vocational Schools Rule 1984 FTC Funeral Practices Rule 1984 FTC Used Care Rule
ICC: household movers (JFK)	1980 Household Goods Transportation Act
Truth-in-packaging (JFK; LBJ.1,2)	1966 Fair Packaging and Labeling Act
Increase electric power reliability and service (LBJ.3)	Related 1977 Public Utilities Regulation Policies Act
DOT to study state auto insurance rates & regulations (LBJ.4)	1968 Automobile Insurance Study Act
Improve warranty programs (LBJ.4; Nixon.1,2)	1975 Magnuson-Moss Warranty and Federal Trade Commission Improvements Act
Right to sue in federal court to recover damages from fraudulent or deceptive practices (Nixon.1,2)	
FTC to have jurisdiction over consumer abuses "affecting" interstate commerce (Nixon.1,2)	1973 Trans-Alaska Pipeline Authorization and Federal Trade Commission Improvements Act
Create consumer fraud clearing-house (Nixon.2)	

Related Actions in Effective Regulation of Business Practices

1965 Federal Cigarette Labeling & Advertising Act
1969 Public Health Cigarette Smoking Act
1971 Cigarette Labeling & Advertising Act
1972 FTC Incandescent Lamp Disclosure Rule
1972 Posting of Octane Numbers at Gasoline Pumps Rule
1973 Little Cigar Act
1977 & 1984 DOT Air Carrier Baggage Liability Rules
1977 CAB Timely Notification of Baggage Loss Rule
1978 FDA Vitamin & Mineral Labeling Rule
1979 FDA Patient Package Insert Rule
1980 BATF Mail-Order Alcohol Labeling Rule
1986 Comprehensive Smokeless Tobacco Health Education Act
1987 National Energy Conservation Policy Act

A Prototype for Expert Systems Software for Retirement Savings

Sherman Hanna, The Ohio State University[1]

Planning 20 or more years before retirement involves some difficult conceptual issues. If the goal of the consumer is to maximize utility from consumption for a two year lifetime, and the utility function has constant elasticity of marginal utility with respect to consumption, then it can be shown that the optimal ratio of Year 2 consumption to Year 1 consumption is:

Equation 1: $C_2/C_1 = ((1+R)/(1+\rho))^{(1/X)}$

C_1 = Consumption in Year 1. C_2 = Consumption in Year 2. R = Real interest rate. -X = elasticity of marginal utility with respect to consumption. Most estimates of X are in the range of one to six. ρ = pure rate of time preference, which might plausibly be related to the chance of death during the year, or to changes in family composition or other factors.

There is evidence that the life cycle theory does not describe household behavior (Thaler, 1990), although comprehensive alternatives in a utility maximizing framework have not been developed. Empirical tests of the life cycle theory must make restrictive assumptions to allow for mathematical manageability. White (1978) provides a relatively clear description of the model, with the assumption of a single real interest rate and a constant personal discount rate among the assumptions needed for analysis.

In order to provide students with insight into the life cycle theory, a computer program was written to calculate savings patterns to maximize lifetime utility, assuming Equation 1 holds for all adjacent years before retirement, borrowing is permitted at a higher real interest rate than the return on savings, and ρ is the risk of death each year for the average American of each age. It is also assumed that optimal consumption after retirement would be equal to optimal consumption for the year before retirement, and that a life annuity (with a real rate of return one percent less than the real rate of return assumed on retirement savings) would be purchased to fill the gap between optimal consumption and the pension. The program requests present age, retirement age, real pension as a percent of final salary, rate of increase in real aftertax salary, and real rate of return on retirement savings. An iterative process is used to obtain levels of consumption which maximize expected utility. The assumptions behind the program are described in Hanna (1989).

Figures 1 and 2 show results of running the program for different assumptions. All analyses shown are based on a 25 year old planning for the next 75 years, with an initial annual aftertax salary of $31,000. She will remain single all her life, and her real aftertax salary will increase at one percent per year until her retirement on her 65th birthday. The different patterns illustrated in the graphs are related to the value assumed for the elasticity of marginal utility with respect to consumption, -X. A value of X=1 might be considered very thrifty, while a value of X=5 might be representative of the typical American. Non-investment income increases to $45,698 at age 64. Pensions other than from investments are $22,849 per year after retirement. For the 'thrifty' consumer, the first year, optimal consumption is only $19,570 (Figure 1) and 37% of income is saved (Figure 2). For the 'typical' consumer, nothing is saved the first year. The thrifty consumer saves early, and compound interest increases net worth enough to allow for dissaving by age 53. Real consumption is 2.6 times as high at age 64 as at age 25 for the thrifty consumer, but only 1.21 times as high at age 64 as at age 25 for the typical consumer.

REFERENCES

Hanna, S. (1989). Optimal life cycle savings. Proceedings of the Association for Financial Counseling and Planning Education.

Thaler, R. H. (1990). Anomalies: Saving, fungibility, and mental accounts. Journal of Economic Perspectives, 4, 193-205.

White, B. B. (1978). Empirical tests of the life cycle hypothesis. American Economic Review, 68, 547-560.

Figure 1. Annual non-investment income and optimal consumption

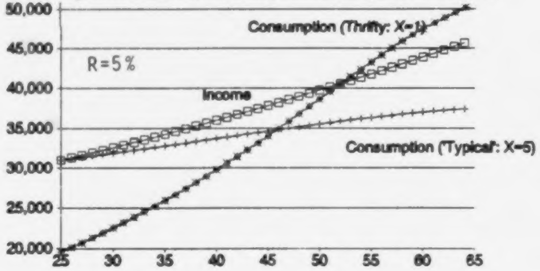
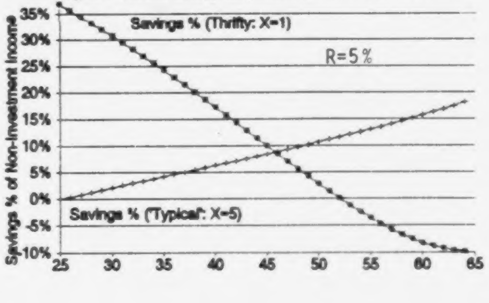


Figure 2. Annual savings as percent of non-investment income



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COUPLES DECISION INVOLVEMENT

Leona K. Hawks, Utah State University [1]
Norleen M. Ackerman, Utah State University [2]

This paper identifies variables that influence husbands, wives, or couples involvement in appliance purchase decisions. Analyses indicates significant differences between husbands, wives, and couples involvement when collecting information, deciding price range, deciding features, and making the final choice.

INTRODUCTION AND PURPOSE

In the past, personal attributes such as higher income, more education, and employment have been held primarily by husbands. These personal attributes influence marital power in decision making. Today, a greater percentage of married women are employed outside the home and are better educated. Limited research has been conducted on the variables that influence married couples decision involvement when making product purchase decisions. The purpose of the study was to identify variables that relate to couples decision involvement when purchasing appliances.

METHODS

A quota sample of names and addresses of recent appliance purchasers was obtained from cooperating retailers. Following one pilot test, the survey, cover letter, questionnaire, and stamped return envelope were sent to 817 appliance purchasers. Data were collected using Dillman procedure for mailed survey research. The response rate was 59%. However, this sample was further reduced because the analyses were limited to married respondents only. The sample consisted of 260 cases.

ANALYSES

Types of analyses used were analysis of variance and Krusal-Wallis. One-way analysis of variance was used to test for significant differences in decision making involvement and demographic variables. LSD, a multiple comparison test, was used to determine which means were significantly different from each other. A Krusal-Wallis test was used for one-way analysis of variances that violated tests for homogeneity of variance. The probability level accepted as significant was at the .05 level. The four decision involvement questions were categorized into: husband alone, wife alone, and both husband and wife.

FINDINGS AND DISCUSSION

For the who collected information variable, when the wife's mean family income was higher, she collected information alone. Perhaps in higher income families, the wives have more time to collect information. When the husband's and wife's mean family income was lower, the couple collected information together. Generally in lower income families, every penny counts, therefore husbands and wives may share in activities that result in financial decisions. When the wife's mean number of appliances purchased in a lifetime was higher, she collected information alone. Perhaps this finding indicates that the more experience the wife has, the more likely she is to collect information alone.

For the who decided price range variable, when the husband's mean number of adults living in the household was higher, he decided price range alone. Perhaps when there are more adults living in the household, there is greater strain on resources and greater need for husbands to make financial decisions alone.

For the who decided features variable, when the wife's mean appliance purchase price was higher, she decided features alone. When the husband's mean appliance purchase was lower, he decided features alone. Perhaps this has to do with decision importance. The wife may be the person using the appliance, therefore specific features might be more important to her.

For the who made the final choice variable, when both the husband's and wife's mean appliance purchase price was higher, they made the final choice together. When the husband's mean appliance purchase price was lower, he made the final choice alone. It seems that the higher the purchase price, the more couple involvement in the final choice. This may have something to do with reducing the risk of making a poor purchase decision.

CONCLUSIONS

In summary, wives were more involved when their mean income was higher, had more experience, had a lower number of adults living in the household, and the purchase price was higher. Husbands were more involved when the purchase price was lower and there were more adults living in the household. Couples were more involved when the mean income was lower and the mean appliance purchased was lower.

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TEACHING AND LEARNING ABOUT SOCIAL INSURANCE

John P. Knapp, Michigan Consumer Education Center,
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This Poster Session, directed towards those with educational responsibilities, is designed to show the possibilities of incorporating social insurance concepts into formal classes, presentations, seminars, workshops and other educational pursuits.

RATIONALE

During the twentieth century the social insurance approach to meeting the needs of workers and their families in times of crisis has evolved into a basic institution of American life. State and federal programs like Social Security, Medicare, and unemployment compensation provide millions of families with financial security during such emergencies as unemployment, illness, disability or death.

Now, older people can retire with the dignity of knowing that by their own labor they have earned the right to live without being a financial burden on their families or fellow citizens. Today, people of all generations benefit, both directly and indirectly, from the fact that the vast majority of Americans are protected by social insurance systems. No institution of our society is more important for maintaining the quality of life we enjoy.

Yet research shows that many Americans, especially younger people, neither understand social insurance nor appreciate its importance to society. People who are not informed about its background and the scope of its benefits are easily misled by questions being raised today about the future of social insurance in America.

Critics of social insurance raise questions about generational equity, claiming that programs and services for young people are suffering from excessive spending on programs and services for elders. Another issue often raised is the financial stability of Social Security. Even though recent adjustments in Social Security have assured that the system will be fiscally sound well into the next century, questions are still being asked about whether the system can survive the graying of America without placing an intolerable tax burden on younger people. In addition, the planned build-up of a surplus in the Social Security trust fund for the purpose of paying retirement benefits to large numbers of baby boomers in the early decades of the 21st century is controversial, as is the relationship of that surplus to the huge federal deficit.

EDUCATIONAL CONSIDERATIONS

The Poster Session will address these concerns and introduce a new book titled Social Security In The USA: A Discussion Guide to Social Insurance With Lesson Plans. It provides valuable background information on such subjects as why social insurance was developed, what its major programs are, why and how it has evolved in the U.S., and how social insurance reinforces fundamental values of American culture. A copy of the book, in which the present writer has no financial interest, will be provided without charge to each participant in the Poster Session.

The final thirty pages of Social Security In The USA is a supplement for teachers. The supplement contains lesson objectives, advance preparation notes, reproducible handouts, exercises, quizzes and suggestions for extending activities. Taken altogether, the lesson plans are designed to be used for seven class periods, although they are easily adaptable to different time-frames.

REFERENCES

Kingson, Eric and Edward D. Berkowitz, Fran Pratt(1989). Social Security In The USA: A Discussion Guide To Social Insurance With Lesson Plans. Save Our Security Educational Fund, Washington D.C.

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[1] Consultant

COMPARISONS OF EXTENSION HOME ECONOMISTS' PERCEIVED COMPETENCY IN FAMILY AND CONSUMER ECONOMICS

Debra Pankow[1] and Margaret Fitzgerald[2], North Dakota State University, and
Chris Koehler[3], Washington State University

The Cooperative Extension System is a source for reliable, objective information related to Family and Consumer Economics. Extension agents often have backgrounds in areas other than Family/Consumer Economics, or lack full time specialist support at the state level. Extension Home Economists were surveyed in two states to determine: the number of requests received for Family/Consumer information, how knowledgeable and comfortable agents felt answering questions and conducting programs, and if there was a need for training. Results are reported and suggestions offered for educators.

PURPOSE

Family Economic Security is a priority initiative in the federal plan for Cooperative Extension. Individuals and families can rely on Cooperative Extension to provide information and update their knowledge in Family and Consumer Economics. In some states, budget constraints and down-sizing have affected Extension agents' ability to provide information. Programming may suffer if there is not a fulltime permanent specialist. There were three purposes for this study: 1) to determine the number of requests Home Economists in two states received for Family/Consumer Economics information, 2) to assess how comfortable the Home Economists felt doing programs and answering questions in this area, and 3) to assess the need for more training.

METHODOLOGY

Surveys were mailed to all Extension Home Economists in North Dakota and Massachusetts in the fall of 1989. Twenty-nine (94%) North Dakota Home Economists and 20 (90%) Massachusetts Home Economists responded. They were asked about their home economics background, for the number of requests for Family and Consumer Economics information received monthly, their perceived level of knowledge and confidence in these areas, and if they needed training to strengthen their skills.

FINDINGS AND IMPLICATIONS

Extension Home Economists received an average of one to five requests for consumer information each month. The numbers of requests increased among those with more experience. This might indicate that clients know that Cooperative Extension provides information in this area, or that agents knowledgeable and comfortable with the subject encourage those questions.

Percentages of responses from Extension Home Economists from Massachusetts (MA) and North Dakota (ND) can be found in below. Responses indicated that in "specialized" areas of money management, agents feel less comfortable providing programs and information. In several areas, over half of the respondents indicated that they needed more training either now or in the future.

TABLE 1 Perceived Level of Comfort in Teaching

	Not Comfort		Somewhat Comfort		Very Comfort	
	ND	MA	ND	MA	ND	MA
Resource Manage.	31%	10%	62%	60%	7%	30%
Time Management	7	10	38	50	55	40
Recordkeeping	41	20	52	35	7	45
Home Based Business	50	35	43	35	7	30
Taxation	93	70	7	30	—	—
Spending Plans	21	25	72	30	7	45
Consumer Credit	59	55	41	15	—	30
Money and Banking	45	55	55	25	—	20
Insurance	72	70	24	30	3	—
Financial Planning	55	55	45	35	—	10
Social Security	90	75	10	25	—	—
Consumer Ec.	7	25	66	45	—	30

TABLE 2 Perceived Need for Additional Education

	adequate		no need		some-time		definite need	
	ND	MA	ND	MA	ND	MA	ND	MA
Resource Manage.	3%	20%	3%	10%	38%	40%	55%	30%
Time Management	38	50	17	10	35	30	10	10
Recordkeeping	7	60	10	20	21	25	62	10
Home Business	17	45	3	20	52	25	28	10
Taxation	3	10	10	25	38	25	48	40
Spending Plan	17	40	—	15	24	20	59	25
Credit	3	20	7	20	31	45	59	15
Money Manage.	3	10	7	25	52	35	38	30
Insurance	—	10	10	30	41	30	48	30
Planning	3	5	3	25	28	35	66	35
Social Security	3	10	10	35	45	25	41	30
Consumer Ec.	38	30	3	10	31	35	28	25

* Responses expressed as percent

Most of the respondents did not have a strong background in Family/Consumer Economics. Students considering careers in Cooperative Extension could be encouraged to take courses in this area. Students interested in the area could be encouraged to consider Cooperative Extension as a career.

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CHARACTERISTICS OF CHAPTER 7 BANKRUPTCY PETITIONS IN LOUISIANA

Bonnie C. Cooper[1], Frances C. Lawrence[2], Michael F. Burnett[3]
and Carolyn G. Carter[4], Louisiana State University

Chapter 7 petitions were reviewed to determine characteristics of Louisiana residents who had filed for bankruptcy. Findings are reported with particular focus on implications for student activities in classes related to family finance.

INTRODUCTION

The number of personal bankruptcy cases in the United States has continued to rise. For example, personal bankruptcies increased from 300,000 in 1984 to 500,000 in 1987 (1). Approximately 70% of all bankruptcies are Chapter 7, personal bankruptcies that provide for liquidation of assets and discharge of debt. The purpose of this research was to explore the characteristics of those persons in Louisiana who filed for Chapter 7 bankruptcy.

METHODOLOGY

The sample consisted of 56 randomly selected persons who had filed during the first quarter of the years 1985, 1987, and 1989. Selected information taken from the bankruptcy petitions included: gender, employment, net income, number of secured and unsecured creditors, reaffirmation of house and automobile, and legal actions.

FINDINGS

Results indicated that: (1) the petitions were most often filed by males (75%); (2) the majority of the sample (79%) were employed; (3) take-home monthly income range from $0 to $9,550 with an average of $1,505; (4) unsecured debts ranged from $951 to $578,000 with an average amount of $49,757; secured debts ranged from $0 to $1,781,000 with an average amount of $105,777; (5) the number of unsecured creditors ranged from 1 to 70; the number of secured creditors ranged from 0 to 12; (6) three-fourths of the homeowners (75%) reaffirmed the house; (7) half of the automobile owners (50%) reaffirmed the loan on at least one automobile; and (8) legal actions included one-fifth of the sample (20%) having a judgment and 11% having wages garnisheed.

IMPLICATIONS

Reviewing bankruptcy petitions has the potential for being a valuable experience for students enrolled in family finance or financial counseling classes. Data indicating the characteristics of those who have filed bankruptcy are tools for helping students realistically determine contributing factors to bankruptcy and tend to show vividly credit pitfalls.

If students are to produce accurate data when using the bankruptcy records, it is important that they receive adequate instruction concerning the inconsistency in how the petitions may be completed, understand the legal terminology used, and realize the time commitment that is involved in reviewing the records. It is also recommended that in addition to reviewing the bankruptcy petitions, students attend bankruptcy court hearings, interview the clerk of court, and interview the bankruptcy judge.

REFERENCES

Luckett, Charles A. (1988), "Personal Bankruptcies," Federal Reserve Bulletin, 74(9): 591-603.

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LOW AND MODERATE INCOME CONSUMERS WITH AND WITHOUT CHECKING ACCOUNTS: A COMPARISON

Irene E. Leech, Virginia Polytechinic Institute and State University[1]
Elaine D. Scott, Virginia Polytechinic Institute and State University[2]
Jean Ann Fox, Virginia Citizens Consumer Council[3]

As banks are deregulated and receive expanded powers to enter new markets and lines of business, it is important that consumers maintain access to basic banking services. This study focuses on the availability of affordable checking accounts, bank policies on cashing checks for non-depositors, identification requirements to use banking services, and the fees and practices of check cashing businesses. It was done by the Virginia Citizens Consumer Council, a statewide consumer advocacy organization that represents consumer interests on legislative and regulatory issues, as a report to a state legislative subcommittee. The project was supported by a state and local grant of the Consumer Federation of America.

Data were collected in July and August, 1989 through individual interviews with 308 randomly selected consumers at twenty-nine sites across the state. Five area agencies on aging, two community action programs, nine Cooperative Extension Service Expanded Food and Nutrition Programs, two military financial counseling services, and two church groups participated. Those interviewed were either the head of household or managed the family finances.

Preliminary results indicate that there are definite differences between consumers who do and do not have checking accounts. Seventy-three percent of those interviewed are below the poverty line. Fifty-four percent of respondents without checking accounts have monthly incomes of less than $416 and 31% have monthly incomes between $416 and $833. Those with checking accounts have higher monthly incomes; 29% earn between $834 and $1,666 each month, and 14% earn more.

One third of each group receive income from wages. Of those with checking accounts, 26% receive pensions and 52% receive social security benefits. Only 2% of those without checking accounts receive pensions and 15% receive social security benefits. However, 34% receive income from Aid to Families with Dependent Children and 34% receive Food Stamps.

Those without checking accounts have larger households, are younger (under age 50), less educated, and more likely to be female and/or black.

Sixty-five percent of each group have a current driver's license or non-driver identification. Those with accounts tend to have significantly more forms of identification such as credit cards and senior citizen cards.

Consumers with checking accounts generally have had them for more than five years (65%) and 81% have accounts with banks. Only 14% have free or low cost accounts. Forty-five percent must keep an average balance to avoid fees ($\bar{x}$ = $346). Forty-one percent do not know how much the fee is. Reasons for selecting banks include: convenient location (56%), affordable fees (22%), good service (12%), convenient hours (5%), and feeling welcome (3%). Most of these consumers cash checks where they have an account (84%) or in stores (20%). Ninety-one percent have never paid to have checks cashed. The two percent who pay to cash checks pay an average of 10% of the value of the check or $.64.

About half of those without checking accounts have ever had them. Reasons for not having accounts include: can't save enough to open an account (46%), can't afford fees (23%), too hard to manage (18%), can't risk overdrawing (14%), don't need one (13%). These consumers most often use banking institutions (53%) and stores (41%) to cash their checks. Consumers also use check cashers (7%), friends and relatives (5%), landlords (3%) and employers (3%). Twenty-one percent of these consumers pay an average of 14% of the check, ($\bar{x}$ = $3.32) to cash checks. Nearly half (45%) spend part of the check at a store so that it will be cashed (an average of 17% or $15.83) Twenty-seven percent report that they sometimes or frequently have trouble cashing checks. Nine percent of these consumers were robbed of cash in the last two years and 54% pay bills in cash.

Lack of access to affordable banking services is a problem for low and moderate income consumers. Those without accounts encounter additional costs, inconvenience, and risk in getting checks cashed, paying bills, and keeping cash safe. The reasons most often given for not having accounts match checking account requirements that banks can change to make their services more accessible to this sector of the community. These features include minimum deposits, monthly fees, and overdrawn check charges. Arbitrary identification requirements are a barrier to use of checking accounts. Roughly three-fourths of those without accounts can show one form of picture identification, but they cannot chow a credit card or job ID. The types of identification that these consumers have do not match well with the types most often required by financial institutions. Consumers who have accounts have had them a long time and are not using the low-cost or free accounts that banks offer. Financial institutions should be forced to make low cost services more available and to notify customers who qualify for such accounts of their availability.

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THE EVOLUTION OF A SURVEY IN A RAPIDLY CHANGING ARENA: THE ECONOMIC IMPACT OF AIDS ON HOUSEHOLDS

Mary Ellen Rider McRee[1] and Richard Widdows,[2]
Purdue University

Acquired Immune Deficiency Syndrome (AIDS) has had a tremendous impact on our country. This project was conducted to develop a questionnaire and method of data collection to determine the economic impact of AIDS and Human Immunodeficiency Virus status on households.

The purpose of this poster is to highlight the results of a piloted questionnaire designed to focus on the economic impact of (Acquired Immune Deficiency Syndrome) AIDs on households.

THE ISSUE

AIDS is a multi-dimensional problem with serious economic implications for patients, their families, and friends. In the Fall of 1988, stories abounded on the billions of research dollars available with funds specifically targeted toward social science research.

A full profile of costs experienced by effected persons had yet to be developed. Therefore, the project proposed to develop a survey instrument and method of collection that protected the confidentiality of the AIDS patient population. The time line proposed for carrying out this initial project was four months.

THE PROCESS

An extensive review of the literature and participation in a colloquia and its steering committee activities of the Social and Behavioral Sciences Initiative (SBSI) for the university's Center for AIDS Research were conducted. Seed monies were offered, sought, and awarded by the Center.

With seed monies, the consumer researchers were able to discuss the newest of research with medical researchers, medical economics researchers, clinicians, case managers, administrators of Medicaid from various states, government research organization program officers, and representatives of various AIDS social service organizations.

A questionnaire was developed for review by regional experts in the delivery of AIDS programs and services. Version one was reviewed by the coordinator of the local AIDS project who also heads the regional support network for AIDS patients. Version two was reviewed by the administrators of the leading AIDS social service organization in the state.

A pilot was conducted using the revised questionnaire. Respondents were contacted through sources identified through colloquia, the revision process, and various other contacts. An initial pilot mailout was unsuccessful. Responses from reviewers and respondents about the importance of the project encouraged the reviewers to proceed. Permission to use existing grant monies for soliciting completed questionnaires was received. A graduate student already in the employ of a major AIDS social service organization was made available to collect data. Monies were paid to the social service organization who then paid the 28 respondents. The final questionnaire will be used in a larger funded project currently under development.

CONCERNS FOR FUTURE RESEARCHERS

Through this process, it became quite evident that various components of the research process quickly changed. In effect, these factors changed the focus of the research and the research process. What changed?

1. Knowledge about the disease and drug therapies changed rapidly. The disease continues to be considered an epidemic. Drug therapies have lead the focus of the disease toward chronic illness characteristics.

2. The public policy debate over the funding of research changed. A question of values arose when asking, is AIDS more important than cancer or any other chronic disease in the receipt of research dollars?

3. The researchable population changed both by location and by socio-demographic characteristics. The predominance of the traditional homosexual population gave way to local populations of intravenous drug users, teenagers, pediatric cases, and bisexuals.

Despite the rapid changes, the topic continues to be one where consumer economists can make major contributions. AIDS and other chronic illnesses impact heavily on consumption and financial management needs of households. For this reason, ACCI members have a professional responsibility to be involved in the research.

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CHILD SUPPORT SETTLEMENTS: A COMPARISON BETWEEN 1973 AND 1985

Wendy L. Reiboldt, The Ohio State University[1]

This paper examines factors related to women's receipt of child support awards before (1973) and after (1985) divorce law reform.

Approximately 60% of divorcing couples have children, making child support awards an important consideration in divorce cases. With the divorce law reform in Ohio in 1974, child support awards were expected to increase in frequency and amount. This law change would have important implications for the financial well-being of divorced women and their children.

The purpose of this study was to compare court record data of divorce settlements for women in 1973 and 1985 to determine factors that affect settlements to guide families and legal professionals toward appropriate choices during the divorce process. Specifically, this paper looks at differences between 1973 and 1985 by comparing receipt and amount of child support awards. Further, it examines the effect of marital investment, the legal process, assets and residence location on probability of award and amount of award of child support.

ANALYSIS

The sample consisted of a 10% random selection of divorce and dissolution cases in four Ohio counties in 1973 and 1985. Total sample size for 1973 and 1985 was 1028 and 1066, respectively. Specific to this study, 58% of cases in 1973 and 52% of cases in 1985 involved children. Child support was awarded in 85% of the cases in 1973 and 83% of the cases in 1985. Women received custody of the children in 90% of the cases in 1973 and 85% of the cases in 1985.

T-tests were run to test for differences between 1973 and 1985 in receipt and amount of child support awards. Stepwise regression was performed to determine factors contributing to the probability and amount of child support awarded before and after divorce law reform. Interaction variables were created in the regression procedure by multiplying a dummy variable "year" (1985) by each independent variable, using 1973 as the base year. This step was implemented to better perceive how year and the independent variables interact in the equation.

RESULTS

Results of the t-tests showed that there was not a significant difference in the proportion of women receiving child support awards between 1973 and 1985. In 1973, 81% of women received child support awards while 79% received child support awards in 1985. There was a difference in the mean amount of child support awards between 1973 and 1985. The mean amount of child support awards was significantly less in 1985 ($39.47) than in 1973 ($53.89).

Results of the stepwise regression analysis did not find year alone to be significant. Year did interact with two variables in each model, influencing probability and amount of child support awarded.

In the model for factors affecting receipt of child support award, year interacced with marriage length, increasing probability of receiving an award by .06% for each year married in 1985. Year interacted with neglect, increasing the probability of award by .9% in 1985 when neglect was the grounds for divorce. Also entering the model for award of child support was marriage length, which decreased the probability of award by .1% for each year married in 1973, and neglect which increased the probability of award by 2% when neglect was the grounds for divorce in 1973.

In the model explaining amount of child support award, year interacted with marriage length and husband's motions. The marriage length interaction term increased amount of child support by $2.55 for each year married in 1985. The husband's motions interaction term increased amount of child support by $4.01 for each motion filed in 1985. Also entering the model was marriage length which increased amount of child support by $5.60 for every year married in 1973, and husband's motions which increased amount of child support by $171.43 in 1973.

SUMMARY

The change in laws governing child support apparently had little or no effect on increasing the financial security of children in this sample. Estimates for raising one child for 18 years in a medium income family is $123 per week (Espenshade, 1984). Typically, child support payments have been inadequate, and divorce law reform appears to have failed at ameliorating the situation. The average child support award does not cover one-half the cost of raising a child, thus the burden is on the custodial mother (typically). Not only are cost of living increases left out of child support awards; it is apparent that increases in the cost of living and of raising children have not been considered by divorcing parties, attorneys and judges.

REFERENCES

Espenshade, T.J. (1984). Investing in Children, New Estimates of Parental Expenditures. Washington, D.C.: The Urban Institute Press.

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MONEY IN MUSIC: AN INNOVATIVE TEACHING APPROACH

Elizabeth Scannell, University of Vermont[1]

A seminar titled "Financial Security Starts Now" was designed for couples and individuals age 35 and older. The purpose was to introduce key concepts and practices of financial planning.

Lyrics from popular music were selected to reinforce three concepts: controlling spending, using credit, and making investments. These musical interludes were used to help the participants reflect on the financial values, attitudes, and behaviors popularized by these songs and music in general. Did they agree or disagree with the lyrics' message? Does music influence our financial behavior? If so, how?

The music was organized by concept. For example, for credit the song "Atlantic City" by Bruce Springsteen was taped with about five other songs on credit. These lyrics were played: "Well, I got a job and tried to put my money away but I got debts that no honest man can pay. So I drew what I had from the Central Trust and I bought us two tickets on that Coast City bus." The tape was played prior to disseminating information on credit. In a two hour seminar a total of seven minutes of music was played. Each musical interlude lasted just over two minutes.

Popular and country western music was chosen so that the seminar concepts might be reinforced when the participant heard one of the songs in a different setting. Participants evaluated the musical interludes as an interesting teaching approach. Some aged 60 or older could not relate to the popular music but did appreciate the country western songs and the concepts presented.

In addition to lyric phrases, the poster included a list of songs and composers by financial concept. Two sample cassette tapes and recorder were available. For a copy of the cassette, available for educational purposes only, send $5.00 to Elizabeth Scannell, MCSD Department, 207 Terrill Hall, University of Vermont, Burlington, VT 05405-0148.

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DOLLARWISE — A BOARD GAME

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This poster presentation illustrated a board game designed to help young people learn to manage personal money through defining and making choices and to cope with unplanned financial happenings in life. The game consists of a playing board, a die, tokens, title deed cards, play money, and Dilemma and Decision cards—a series of questions and situations requiring players to make consumer decisions.

The DOLLARWISE board game and related materials are designed to promote and support The Super Shopper Connection 4-H and Youth project for youth age 10 to 12. It can be used as a separate activity for young people (ten through teens).

RATIONALE

The Super Shopper Connection project series and the DOLLARWISE Board Game were prepared in response to the need for young people today to gain experience in managing their money, with particular application to effective buying decisions. Children and teenagers throughout the nation make decisions about purchases of toys, school supplies, clothes, recreation, etc. for themselves. A 1984 study of children aged 4-12 (McNeal, Children as Consumers: Insights and Implications, 1987) estimated children's discretionary spending at over $4.2 billion a year. Average weekly expenditures by 10-12 year olds ranged from $3.39 to $5.26. Children also influence many family decisions. They are subject to a variety of advertising appeals, sales techniques, and peer pressures.

A key learning principle—that people learn best when they are actively involved in the learning process—provides the basis for the game.

Simulation is the process of abstracting some aspect of reality and representing it for a specific purpose. In education, simulation involves learner interaction with an activity that represents a real-life event, process, or condition. Educational and instructional games are a type of simulation model, designed to bring about learning as a natural by-product of problem solving activities incorporated into the games (Morgan, Teaching Technical Education, 1979).

In using a game, it is important to be sure the learners understand the purpose of playing the game at the beginning and that a follow-up discussion or review be held at the completion to reinforce key concepts. Games have several advantages—they are stimulating and include a great deal of involvement. Consequences of player decisions are immediately apparent. Games also involve actual action or behavior, rather than just verbal or written intentions or solutions.

THE GAME

A sample of the game board, the Dilemma (situation) cards and the Decision (question) cards, and other components of the game were displayed. Project books and leader's guide for The Super Shopper Connection project were also available for review. Information may be obtained from the authors.

PRELIMINARY RESULTS

The game was played in two 4-H project club meetings, with two informal groups (family or friends), and a sixth grade social studies class.

The Extension agent or leader reported that each group understood the objectives of the game, had fun, and learned some new things. A few had a little difficulty understanding the questions. The procedures were easy to understand; one group added a limit to the number of times the die could be rolled after rolling a six.

Comments from the participants included: "This is fun." "I want to keep the money." "I don't want to buy any snacks." "Lots of fun, laughter, and some jeering."

One leader thought the players tended to become more conservative, not wanting to spend their money. They enjoyed the income earned on their savings.

Other leaders commented that the game was "a good way to spice up an educational program"; that the youth "learned a lot from the questions they had to answer"; that they wanted to play it again at a later time. They also thought it was important to understand that the game was an educational activity, since considerable time is needed to play it.

Over twenty counties have ordered their own copies of the game, in addition to the thirty copies which will be available for borrowing through the Extension Distribution system. The game was developed by a team including the authors, Janet Sylvester, 4-H Volunteer Leader, Steven Fisher and Eldon Weaver, Extension Specialists, 4-H and Other Youth Programs.

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LIVING RESOURCEFULLY -- PART OF THE CONSUMER AND LIFESTYLE DECISION-MAKING INITIATIVE

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The Living Resourcefully program began as a long-term Extension educational effort to help individuals and families effectively manage resources to maximize their satisfaction and meet needs and goals. Consumer purchase decisions and resource allocation choices, as well as recognition of individual and family values and attitudes, were emphasized in the curriculum. The program was carried out this past year under the Consumer and Lifestyle Decision Making Initiative of our state's Extension Service.

The poster presentation highlighted the development and accomplishments of this program approach, which integrates several subject matter fields, fosters team work, increases productivity, illustrates an effective method of marketing a program, and documents successful accomplishments. The methodology and results will be helpful to teachers at all grade levels, to consumer advocates, and to Extension professionals.

Since family choices involve many substitutes among resources and their uses, the integrated program approach facilitates recognition of the tradeoffs involved. From the accountability perspective, more benefit is illustrated by presenting program results in a unified way, rather than as summaries of many fragmented lessons which alone may seem unimpressive and not worthy of support by tax dollars.

RATIONALE

The greater complexity of the marketplace for goods and services increases the difficulty of making rational decisions. Both dual earner and single parent families are increasing in number. Time and energy are particularly scarce resources for these people. Farm families, low income families, and other clientele groups have special problems in managing their resources. Children and teenagers are becoming important consumers.

TOPICS AND AUDIENCES

Specialists prepared lesson plans, publications, and related materials on goals and decisions, time management, financial management, consumer buying, and related choices. The tradeoffs between the use of money, time, energy, and other resources were featured.

The curriculum included lessons (or series of lessons) for varied clientele groups, including working families, young families or singles, rural families, volunteers, low income persons, youth, and the general public. Between October, 1988 and June, 1989, leaders were trained and educational meetings and workshops were held on many issues, reaching over 24,000 individuals. Vast audiences were also reached via newsletters, news articles, radio, and television contacts.

A brochure was developed to publicize the availability of Living Resourcefully materials to potential participants and decision makers. New topics are being added, although the program continues to emphasize decision-making and tradeoffs.

MARKETING THE PROGRAM: PUBLICITY AND ACCOMPLISHMENTS

PROGRAM RESULTS

10/1988 - 6/1989	Number of Educational Meetings and Workshops	Number of Leaders Trained	Audience Reached
CONSUMER CHOICE AND BUYMANSHIP	98	591	4,908
CONSUMER FRAUD AND PROTECTION	17	–	1,066
FINANCIAL DECISION-MAKING	230	219	6,692
HOUSEHOLD RECORDKEEPING	77	13	2,051
TIME MANAGEMENT AND HOUSEHOLD PRODUCTION	283	619	9,628
TOTAL	705	1,442	24,345

In addition to teaching decision-making to fit individual situations, a key purpose was facilitating the "marketing" of this educational program. Evaluating program impacts and documenting accomplishments is facilitated, which in turn makes marketing easier. Examples of two program's results include:

Participants (80% of 1,032) in the Make Up Your Mind Goals and Decisions program indicated an increased awareness of the importance of setting goals and making careful decisions. Two-thirds planned to use some of their newly acquired decision-making skills, while just over half planned to practice one or more new goal setting techniques.

Follow-up evaluations from 121 participants in Taking Inventory—Protecting Your Household Possessions, (a program on household inventories) indicated that 12% of those who planned to develop a household inventory (34% of participants) actually completed it, while an additional 22% were still working on it. Of those planning to update an existing inventory (45% of participants), 33% had actually updated it and 22% were still working on the update.

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HOW SHOULD HEALTH CLAIMS FOR FOODS BE REGULATED?
SUMMARY OF AN ECONOMIC PERSPECTIVE

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In September, 1989 the Bureau of Economics of the Federal Trade Commission released an Economic Issues paper on the regulation of health claims. Janis Pappalardo's conference presentation summarized the arguments made in that paper. What follows is the executive summary from the FTC report.

BACKGROUND

New diet and health headlines seem to pop up every day. One day new evidence appears on oat bran and serum cholesterol. Another day brings news of calcium and osteoporosis. Nutrition has become a small-talk staple, which manufacturers are emphasizing increasingly in food labeling.

One might think a new emphasis on nutrition and health would be well received; labels that report National Cancer Institute (NCI) recommendations would seem to be more beneficial than labels that offer only games or product images. Nonetheless, health claims in food marketing are controversial.

Many government regulators and consumer advocates believe that such claims are bound to be misleading. In fact, more health information had not appeared in food labeling earlier because the Food and Drug Administration (FDA) officially prohibited this use of health findings for many years.

Controversy over the FDA's ban on health claims was brought into sharp focus by Kellogg in 1984. At that time Kellogg began using All-Bran cereal boxes to inform people of some NCI advice about fiber and cancer. The NCI never questioned the accuracy of Kellogg's messages. Nevertheless, some FDA staff suggested that such labeling had transformed the breakfast cereal into a drug -- a drug being marketed illegally.

While this stance may seem curious, it was not uncommon. For years the FDA had banned health information in food labeling by employing this argument. The FDA has not yet officially ruled on whether Kellogg's labeling made All-Bran an illegal drug. It appears that a final decision will not be announced until the agency has had an opportunity to review and modify its overall policy on health claims in food labeling.

In August, 1987, almost three years after the All-Bran campaign began, the FDA published a notice of proposed rulemaking to revise its health claims policy. The notice signaled a major regulatory change. The value of labeling as a health information source had been formally recognized. No longer would the FDA threaten to react automatically to health claims by classifying the labeled food as a drug, thereby forcing the claims to stop. Soon the FDA was flooded with comments against this new policy. Many feared that it would trigger an outpouring of false and misleading claims.

Although the notice indicated that the official ban on health claims was being lifted, it did not indicate just how far away from a complete ban the FDA would be moving. More specifically, the 1987 notice is ambiguous about how much evidence about a diet-health relationship will be required before manufacturers can disseminate findings to consumers through labeling. This ambiguity leaves room for many different substantiation standards with very different implications for consumer welfare.

REGULATING WHEN SCIENCE IS UNCERTAIN: CONSENSUS vs. EXPECTED VALUE RULES

Two interpretations of the FDA's proposed substantiation standard have emerged. One approach is to require a fixed, pre-set level of substantiation for all claims, a level that approaches a "consensus" among experts. A contrasting approach relies explicitly on cost/benefit analysis. Under this more flexible "expected value" standard, the required level of substantiation depends upon the balance of likely costs and benefits associated with specific claims. Both polices prohibit claims that are clearly false or misleading. Both require that statements about diet and health research be accurate. Unlike the fixed consensus approach, however, the expected value technique will allow some claims that are potentially valuable to consumers but do not yet rely upon undisputed evidence.

Economic Incentives to Provide Accurate Health Information

News leaks and recent statements by FDA staff indicate that the agency may adopt a rigid consensus standard. Our economic analysis suggests that this is likely to be a mistake because consumers could be denied accurate information and quicker product improvements.

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Potential consumer harm from rigid restrictions is illustrated by the following example. In 1988 the American Heart Association (AHA) unveiled a plan to allow food manufacturers to display an AHA seal of approval on foods that meet the AHA's nutritional standards for fat, cholesterol and sodium. Fees paid to the AHA by manufacturers that use the seal would finance a massive public education program on diet and health. The FDA, however, has not welcomed this innovative partnership between public health groups and business. Instead, the agency has reportedly warned that an AHA seal of approval on a label might constitute an illegal health claim.

An application of economic principles to the health claims debate suggests that consumers could probably benefit from programs like the AHA's. A frequent complaint is that consumers know too little about diet and health. Much of the problem lies in the economic nature of information itself. Weak property rights result in inadequate incentives for firms to disseminate general health information to consumers. Fortunately, there exists a countervailing market force. Profit incentives encourage food sellers to provide specific health information in food labeling. Health claims in labeling can lead to improvements in products as well as in consumer information. Thus the provision of health information by manufacturers can improve consumer welfare.

Unfortunately, profit incentives can also encourage manufactures to overstate the health value of their products. Thus, worries about potentially false or misleading claims cannot be dismissed on the basis of economic theory or common sense. Economic theory, however, does indicate that some market forces help to deter potentially deceptive claims. For example, firms that depend upon their good names to make repeat sales are unlikely to use inaccurate claims that could devalue their reputations. Furthermore, institutions such as the FDA and the Federal Trade Commission (FTC) exist to police the marketplace.

Policing the marketplace is admittedly tricky. Scientists rarely (if ever) know for certain that a substance such as fiber exerts a particular effect on a disease such as cancer. What science offers is a body of studies, each with its own limitations, which suggests (with varying degrees of certainty) that a particular diet/health relationship exists. Thus, regulators cannot simply allow claims about "true" diet/health relationships and prohibit claims about "false" diet/health relationships. Regulators must instead devise enforcement rules that explicitly account for the problems that arise when "truth" is unknown.

An Expected Value Rule Balances Type I and Type II Regulatory Error

The application of basic cost/benefit principles to the health claims substantiation question suggests that the best way for the FDA to regulate claims surrounded by scientific uncertainty may be to adopt a flexible expected value rule. Such a rule could appropriately balance harm from allowing information about diet/health relationships that eventually proves to be false (Type I regulatory error) against harm from prohibiting information that eventually proves to be true (Type II regulatory error).

In contrast, the fixed consensus rule, which has considerable support in the regulatory community, dictates that only claims backed by a "consensus" of scientific agreement be allowed. This rule therefore implicitly assumes that harm from Type I regulatory error (harm from allowing claims about relationships that prove to be false) is more severe than Type II regulatory error (harm from prohibiting claims that prove to be true). Because both types of harm can be important, the expected value rule is preferable.

HARM FROM TYPE II ERROR

A case history suggests that serious Type II regulatory errors can be made. The FDA prohibited dietary cholesterol and fat content information in labeling for many years because a sufficient consensus had not been reached on the relationship between diet and heart disease. Now that a considerable consensus has emerged on the relationship between fat, cholesterol and heart disease, it appears that a Type II regulatory error, resulting in considerable consumer injury, was probably made. Consumers were denied information that now appears to be true -- information that might have led to beneficial dietary changes earlier. The FDA is not alone in making such errors. In our view, the FTC made a similar mistake when it negotiated a ban on tar and nicotine advertising in 1960 on the grounds that the hypothesis that reductions in tar and nicotine would improve health was not backed by a sufficient consensus.

FEASIBILITY OF AN EXPECTED VALUE RULE

The expected value principle, which requires that both Type I and Type II regulatory errors be weighed when making regulatory decisions, appears to be a feasible regulatory tool. For example, the FTC's advertising substantiation doctrine, now over fifteen years old, is essentially an application of the expected value rule. Under this doctrine the decision to allow or prohibit an advertising claim is based upon a comparison of the likely costs and benefits of each action. A rigid consensus of opinion is not uniformly required to support accurate claims. Put simply, the FTC's policy allows manufacturers to use information surrounded by scientific debate as long as the scientific finding is accurately represented, the degree of evidence is not misrepresented, and the claim passes a rough cost/benefit test. Examples of how to structure a rough cost/benefit analysis for claims about saturated fat, serum cholesterol, and heart disease show how an expected value rule might be used today and how it might have been used twenty-five years ago.

CONCLUSION

The analysis presented in this report suggests that the FDA should consider adopting a substantiation standard similar to the FTC's. More specifically, the importance of weighing both Type I and Type II regulatory errors could be made clear in the agency's regulations. Otherwise, policy makers might find it too enticing to avoid controversy by maintaining the status quo through the use of a fixed consensus rule. Under an expected value rule, the FDA would be required to ask not only "How much harm would occur if Kellogg's claims caused consumers to eat a little more fiber, and science eventually shows that there is no link between fiber and cancer?" but also "How much good would occur if Kellogg's claims caused consumers to eat a little more fiber, and science eventually shows that eating fiber reduces the risk of cancer?" A consensus standard focuses too much attention on the former question and not enough on the latter.

An explicit requirement to consider harm from both types of regulatory errors would not prevent the agency from taking a compromise approach. The FDA could use a flexible substantiation standard in most situations, while reserving the right simply to prohibit claims when a preliminary cost/benefit analysis indicates that the potential danger from a subset of claims is large, the science remains in substantial doubt, and the costs of careful assessment are high. The key, however, is to base all decisions on at least a rough cost/benefit analysis.

REFERENCES

Calfee, John E. and Janis K. Pappalardo (1989). "How Should Health Claims for Foods be Regulated? An Economic Perspective." Federal Trade Commission, Bureau of Economics, Economic Issues Paper.

RECENT PUBLIC EDUCATION EFFORTS ABOUT HEALTH AND DIET

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The FDA Health and Diet Survey (HDS) have tracked consumer awareness and knowledge of diet/disease relationships during a period (1978-1988) when there have been at least 3 major programs to publicize the role of diet as a risk factor for chronic diseases. This paper presents trend data from the surveys and related market data that identifies some of the cognitive impacts of these education programs. Despite using different messages and different implementation strategies, all 3 programs have been very successful at raising awareness of specific diet/disease relationships among all segments of the population.

INTRODUCTION

A consensus about the potential value of encouraging healthier dietary habits in the population seems to have emerged among the public health, medical and scientific communities in the past 20 years. Data has accumulated that certain dietary patterns are associated with increased risks for chronic and degenerative diseases including heart disease, stroke, obesity and cancer (NAS, 1989; DHHS, 1988). Nutrition education is increasingly being seen as a means to reduce population risk factors for these diseases, a means which is an alternative to more costly kinds of medical and clinical intervention strategies.

The Dietary Guidelines for Americans (DHHS/USDA, 1978), for example, suggest that for a healthier diet Americans should eat less fat, particularly saturated fat, cholesterol and sodium while increasing consumption of complex carbohydrates and fiber. There have been a series of recent scientific reviews (DHEW, 1979; DHHS, 1980; DHHS, 1983; NRC, 1982; NIH, 1986), that have recommended as a matter of public policy the reduction of dietary risk factors for various chronic diseases. With this mandate, the National Institutes of Health, notably the National Heart, Lung and Blood Institute (NHLBI) and the National Cancer Institute (NCI) have undertaken nutrition education activities to promote healthier food habits among the general public.

In collaboration with NHLBI, FDA has conducted a series of national telephone surveys, known collectively as the Health and Diet Surveys, which were intended in part to be evaluation instruments for assessing the impact of nutrition promotion activities engaged in by FDA and other Federal agencies (Heimbach, 1985; Schucker, et al., 1987). The purpose of this paper is to examine the results from these surveys and available market data on trends in consumer beliefs, knowledge and reported health behaviors that seem to be related to these public education efforts. Informing and educating the public about the health effects of diet is a difficult undertaking. Understanding how effective these program have been and the limits to their effectiveness should have broad applicability to other campaigns and circumstances and should enhance the chances of designing successful information programs.

NATIONAL HEALTH AND DIET PROGRAMS

The three national programs addressed in this paper are the National High Blood Pressure Education Program (NHBPEP) (NHLBI, 1979), the National Cholesterol Education Program (NCEP) (Lenfant, 1986), and the Cancer Prevention Awareness Program (CPAP) (NCI, 1984). Each of these programs includes components other than public education in diet and health; for example, each also endeavors to encourage the public to receive appropriate screening tests and conducts information programs for health professionals. Here, we will be concerned only with their diet/disease public education aspects.

The common theme for these initiatives and the hallmark of recent U.S. public education efforts in diet and health is the link made between recommended dietary changes and reduced risks of chronic disease. Each of these programs takes as its objective raising awareness and understanding about specific diet/disease relationships. Each program, however, takes as its focus a different diet/disease relationship; the NHBPEP focuses on the link between sodium and hypertension; the NCEP is concerned with the relationship between fat, particularly saturated fat, blood cholesterol and heart disease; and the CPAP is interested in cancer and its possible links to fat and fiber in the diet.

A distinctive characteristic of all these programs is that they are not Federal government controlled information campaigns. They are made up of a loose collection of separate activities sponsored by varying coalitions of public and private organizations. Important contributors to the process include the news media and the food industry along with a number of professional, scientific and consumer groups. The self defined Federal government role is to foster more activity by setting objectives, by supporting basic research, by monitoring the health and nutrition status of the American population, by seeking to create a consensus among the scientific and public health communities about appropriate recommendations for dietary practices. The common emphasis is on applying the latest scientific understanding of diet and health links to dietary guidance for the public.

The nature of the Federal government role is nicely suited to the needs of the news media. In recent years, U.S. news media have expanded their coverage of health issues, introducing innovations such as regular health features on local news broadcasts, weekly supplements in daily newspapers devoted to health topics, and an increasing number of specialized magazines and television programs dealing with health and fitness topics. The government and other participants in public education efforts such as industry and consumer groups are willing suppliers to this demand from the media for health news. The strategy of developing consensus positions based on the latest scientific research is ideally suited to the needs of the news media for self contained stories which can be presented concisely without too many qualifications. News delivered by the popular print and broadcast media has become an increasingly important channel for disseminating health and diet information to the general public.

The communication strategy of making dietary recommendations based on the latest scientific understanding of diet and disease links has to be seen in relation to the existing public opinion context for diet and health issues in the U.S. Available data from the Roper Surveys (Roper, 1985) indicates that the level of general interest and concern about nutrition has been at a consistently high level in the U.S. population since at least the mid 1970's. There has been little change, for example, in response to survey questions asked in 1976, 1978, 1980, 1983 and 1985 such as "How important to you is the nutritional value of the food you eat?" or "How important to your personal health and well-being is the amount and kind of food you eat?" Throughout this period, almost 90% of the public reported they considered the nutritional value of food to be very important and 60% considered their diets very important to their health.

METHODS

Data Sources

The basic approach taken in this paper is to treat the three national programs as case studies, and to review in each instance available trend data in order to identify their impacts on public knowledge, belief, and behavior. The primary data sources, available in all instances, are public opinion tracking surveys conducted by FDA that were designed to evaluate the cognitive impacts of these kind of public nutrition education initiatives. Key measures assess causal knowledge and concern about specific diet/disease relationships emphasized by the various health and diet program. Knowledge/concern levels are generally assessed by open ended, non-directive questions about specific dietary causes of heart disease, hypertension and cancer and about possible health problems related to intake of fats, cholesterol, sodium and fiber.

The surveys consist of telephone interviews with nationally representative samples of about 4,000 consumers, and provide information about what the public believes about relationships between diet and health. By comparing the responses given to the same questions asked from year to year, we can estimate trends and relate these trends to ongoing public education activities. (Unless otherwise specified, all data in the tables are from the Health and Diet Survey.)

Changes in public knowledge and belief that occur contemporaneously and are consistent with the message content of public information campaigns are the most sensitive and compelling indicators of the effectiveness of such campaigns.

RESULTS

Sodium and Hypertension

The primary objective of the joint FDA/NHLBI sodium initiative which began in 1981 as part of the NHBPEP was to educate the public about the links between sodium or salt and high blood pressure. As part of the initiative, FDA began to encourage manufacturers to voluntarily provide sodium content information on the food label and to lower the amount of sodium in processed food. FDA also proposed that sodium content information be required for nutrition labeling. In coordination with the NHBPEP, a number of public and professional education efforts were initiated, including publications, public service announcements, media, mailings, the development of a modular television package on sodium for use by local television stations, demonstration projects and training workshops for nutritionists, dietitians, physicians and other health professionals. The initiative and its various parts were covered extensively in the popular print and electronic media.

The effect of the 1981 initiatives is striking: Between 1979, when NHLBI conducted a survey of public knowledge and reported behavior related to high blood pressure (NHLBI, 1981), and the 1982 HDS, public awareness of the relationship between sodium and hypertension nearly tripled, from 12% to 34%. Since 1982, top of the mind awareness of sodium/salt as a risk factor for hypertension has remained at the 1982 level.

Food manufacturers responded to this consumer demand by introducing a number of sodium-reduced products: an average of more than nine new products per month throughout 1983 as compared to only four products per year prior to that date (FDA, 1987). As of summer 1988, 89% of Americans have seen such products, 64% have bought them at least once, and 19% regard themselves as regular buyers It is interesting to note that between 1982 and 1984, the major movement was from "have not seen such products" to "have seen but not bought", while between 1984 and 1988 there has been steady increases in the reported levels of regular purchases of such products.

Home use of table salt is a clear behavioral indicator of the level of consumer concern about sodium because it is easily controllable behavior that directly reflects this concern. Consumer purchases of table salt in U.S. supermarkets showed a sharp decline beginning in 1981, with sales tonnage falling 12% between the base year 1979 and 1983 (A.C. Nielsen, 1985). Sales of table salt have stabilized in recent years at the lower post-initiative level indicating the lasting impact of the sodium/hypertension initiative.

Major Perceived Causes of High Blood Pressure*

1979-1988

	1979 %	1982 %	1988 %
Emotional pressure/Stress	49	50	53
Salt/Sodium	12	34	34
"Poor"/Unbalanced diet	30	32	11
Overweight	26	27	28
Heredity	12	16	16
Fats/Cholesterol	6	16	35

*Source for the 1979 data: NHLBI Survey of the Public and High Blood Pressure

Awareness and Purchase of Low Sodium Products

	1982 %		1984 %		1986 %		1988 %	
Have Purchased such Products	49		46		61		64	
Regularly		13		11		16		19
Sometimes		22		20		33		30
Rarely		14		15		[illegible]		15
Have seen but not bought	22		40		27		21	
Have not seen such products	29		14		12		11	
Total	100		100		100		100	

U.S. Supermarket Sales of Table Salt

(Conversion Basis = Pound)

1979	1981	1983	1985
460,112	452,737	402,601	405,045
100%	98%	87%	88%

Fiber and Cancer

In early 1984 the National Cancer Prevention Awareness Program initiated a multi-year effort aimed at increasing the public's knowledge of risks related to cancer and encouraging behaviors that may reduce people's chances of getting cancer. The most visible element of the initiative was a cooperative effort with the Kellogg Company to publicize the possible value of a low fat, high fiber diet for preventing certain kinds of cancer. This message was carried in advertising and on product labels of Kellogg's high fiber breakfast cereal, All Bran. This aspect of the cancer education initiative was both innovative and controversial. The high fiber/cancer prevention message incorporated in consumer product advertising was supported by a multi-million dollar national print and television campaign (estimated at $15 million for the first year) which began in October 1984, a level of paid effort an order of magnitude larger than anything in previous diet and health education campaigns. The fact that the message was closely associated with a certain type of commercial product also distinguished it from the broad dietary recommendations that have characterized other efforts.

Dietary Components Believed to Prevent Cancer

	1984 %	1986 %	1988 %
Any component named	37	54	48
Vegetables/Fruits	10	22	31
Fiber/Bran/Roughage/Whole grains	9	32	28
Vitamin C/Ascorbic acid	5	3	2

The impact of the Kellogg/NCI initiative on consumers and the industry was striking, both in terms of increased public awareness of fiber and cancer and in terms of increased sales of high fiber cereals. In the 1984 Health and Diet survey, conducted before the start of the Kellogg/NCI initiative, respondents were asked what things they had heard that people might eat or drink to help prevent cancer fiber was named by 9% of the public and fruits and vegetables by 10%. By 1986, less than 18 months after the beginning of the initiative, the percentage of people who named fiber more than tripled to 32% and mention of fruits and vegetables doubled to 22%. By 1988, top of the mind mentions of fiber as a cancer preventive pulled back slightly from the 1986 levels to 28%, and fruits and vegetables have regained then status as the number one dietary component associated with cancer. These impressive increases were mirrored by substantial sales gains for high fiber breakfast cereals. Levy and Stokes (1987) examined sales data from a geographically restricted sample of 20 supermarkets. Sales of high fiber breakfast cereals (defined as cereals with at least 4 gms. of fiber/serving) accounted for approximately 6% of the 4 billion a year market for breakfast cereals prior to the Kellogg/NCI initiative. Within one year of the start of the campaign, the market share of high fiber cereals increased to 8% of the breakfast cereal market, a 33% increase worth close to $80 million in added sales. Sales gains for high fiber cereals are continuing, spurred by a number of new product introductions into the high fiber cereal category which are being supported by heavy promotional spending.

The Kellogg/NCI initiative is a valuable case study of the dynamics inherent in diet and health education activities in the U.S. Within six months of the initial Kellogg All-Bran advertising campaign, there were a number of competitive responses from other companies, including packaging changes, increased advertising budgets, requests to NCI for Kellogg type collaborative arrangements, and most significantly, the introduction of several new high fiber cereals intended to compete directly with Kellogg All-Bran and to benefit from the public's increased interest in the claimed cancer-preventive value of fiber.

Fat, Saturated Fats, Cholesterol and Coronary Heart Disease

The primary objective for the diet/health portion NCEP is to increase public awareness of the relation between high intakes of fat, saturated fat and cholesterol, on the one hand, and elevated blood cholesterol, and coronary heart disease on the other. Key messages include dietary guidance for reducing the percentage of calories from fat in the diet, especially saturated fat, and for limiting the intake of dietary cholesterol. Unlike the situation for sodium/hypertension and fiber/cancer initiatives, there is an extensive history of public education efforts concerned with diet and cardiovascular disease. The American Heart Association and other groups have been implementing diet/heart disease information campaigns since the 1950's.30

Since the January 1984 release of the results of the Blood Cholesterol Clinical Trial Study, (Lipid Research Clinics Program, 1984) there has been a noticeable increase in diet and health messages in the print and broadcast news media addressing the role of blood cholesterol and specific types of dietary fatty acids as risk factors for coronary heart disease.

Perceptions of Dietary Risk Factors for Heart Disease

	1982 %	1986 %	1988 %
Fats/Foods with fat	29	43	55
Cholesterol/Eggs	26	40	45
Salt/Salty Foods	11	14	17
Eating too Much	5	5	3

Health Problems Believed Linked to Fat Intake

	1984 %	1986 %	1988 %
Have heard of health problems	78	84	84
Heart disease/Heart attacks	51	57	53
Overweight/Obesity	23	25	25
High blood pressure	20	19	13
Atherosclerotic disease	18	24	19
High blood cholesterol	18	18	30

The cognitive impacts of recent attempts to educate the public about the role of cholesterol in mediating the relationship between dietary fat intake and heart disease have been examined in a series of questions included in the Health and Diet Surveys since 1982.

Overall awareness that heart disease risk may be affected by diet has increased from 58% of the public in 1982 to 76% in 1986 to 83% in 1988. More specifically, belief that excessive consumption of fats, saturated fats, saturated fats, and foods that contain them may cause heart disease has grown from 29% to 43% to 55%, while mention of dietary cholesterol intake as a risk factor increased from 26% to 40% to 45%.

Another way of measuring the impact of efforts to inform the public of the suspected role of fat in causing heart disease is to ask people if they have heard about any health problems that might be related to how much fat they consume. Again, it is clear that there have been significant gains in mention of heart disease and, in particular, mention of high blood cholesterol has increased from 18% in 1984 to 80% in 1988.

Education and the Impact of Recent Diet/Disease Initiative

All of the case studies examined thus far show fairly dramatic increases in population knowledge levels about specific diet/disease relationships associated in time with efforts to publicize these relationships. It seems appropriate to consider whether these increases in knowledge level are distributed equally across the population or whether certain groups are mainly responsible for the increases. The next table gives the population percentage by education level of respondents indicating knowledge of certain specific diet/disease relationships for at least one survey preceding the beginning of the relevant diet/disease initiative and for the most recent survey.

Recent Trends in Public Awareness of Selected Diet/Disease Relationships by Education

Percent Respondents who say that too much sodium or salt is a cause of hypertension.

Education	1978	1986	1988
Not High School Grad	10	37	36
High School Grad	13	43	47
Some College/College Grad	19	53	57

Percent Respondents who say that too much Fat/Saturated Fat/Fried Foods are probable causes of heart disease.

Education	1978	1986	1988
Not High School Grad	12	28	45
High School Grad	21	36	47
Some College/College Grad	33	49	64

Percent Respondents who say that Dietary Cholesterol is a cause of heart disease.

Education	1978	1986	1988
Not High School Grad	10	22	31
High School Grad	24	34	42
Some College/College Grad	37	46	53

Percent Respondents who say that Dietary Fiber can prevent cancer.

Education	1978	1986	1988
Not High School Grad	1	18	15
High School Grad	3	27	21
Some College/College Grad	8	41	36

Educational level is closely associated with the full complex of socioeconomic status indicators such as income, race, occupational status. In the present context education level can reasonably be considered a surrogate for overall socioeconomic status. Prior to the beginning of the various diet/disease initiatives, respondents with higher education have higher knowledge levels about specific diet/disease relationships. Respondents with at least some college education are more likely to mention specific nutrients or specific nutrient/disease relationships compared to respondents with less than a high school education by factors ranging from 2:1 for sodium, 3:1 for fat/saturated fat, 4:1 for cholesterol and 15:1 for fiber.

However, over the period when the various diet/disease initiative were active there were substantial increases in knowledge levels for all education groups. The magnitude of increases in knowledge levels for specific diet/disease relationships were not greatly different between education groups. On a relative basis, the lower education groups are clearly closing the gap between themselves and high education groups.

Increases in knowledge levels about the cancer preventive effects of fiber, the most recent of the diet/health initiatives, were somewhat greater for higher education groups, but there were not differences at all between education groups in the increases seen with respect to knowledge of sodium, fat or cholesterol. Diet/disease information programs do not appear to eliminate differences in knowledge levels between education groups, but neither do they exacerbate these differences. All education groups seemed to derive substantial cognitive benefits from public information campaigns intended to increase awareness and knowledge of specific diet and disease relationships.

Discussion

Each of the diet/disease health promotion campaigns we have examined in this paper was successful to some degree at raising the levels of knowledge and awareness in the general population about specific nutrient-disease links. Population levels of causal knowledge about sodium and hypertension, for example, increased 280 percent in less than two years following the 1981 sodium initiative. Awareness and knowledge about fiber-cancer in the population increased 350 percent in the two years following the 1984 Kellogg-NCI fiber/cancer prevention campaign. Recent increases in population levels of awareness about the role of dietary fats and blood cholesterol in heart disease were not modest, between 70 and 90 percent, but these increases were still substantial and have to be seen in light of the higher base of knowledgeable consumers to begin with in the case of dietary factors for heart disease compared to the situation for sodium-hypertension and fiber-cancer.

The communication strategy adopted by each campaign was essentially the same. Science based health messages that identified dietary risk factors for a specific disease in terms of specific nutrient relationships were used in all cases. Mass media exposure of these messages to the public seemed to be a crucial element in each of these campaigns. Mass media exposure could come from either news coverage of the scientific basis for the nutrient/disease claim or from commercial/advertising that presented authoritative science based health messages depending on the relative involvement of industry and government in the campaign. The 1981 sodium/hypertension initiative was largely a government led effort with little paid advertising that relied heavily on the news media to carry the message. The 1984 fiber/cancer initiative was primarily an industry led effort that relied heavily on paid advertising. Recent gains in awareness about the role of fatty acids and blood cholesterol in heart disease seem to be due to coverage of in the news media inspired by the 1984 release of the results of the Blood Cholesterol Clinical Trial Study.

The case studies also demonstrate that cognitive improvements in the general public are associated in a complicated cause and effect fashion with changes in the marketplace, in part, because food companies try to respond to perceived consumer demand for products with desirable nutrition characteristics. The availability of low sodium and high fiber products in the U.S., for example, increased dramatically during the same time periods that cognitive gains occurred in the population. Promotional efforts in support of these new product introductions or in support of established products featuring desirable nutrition characteristics reinforce, and in some instances constitute the major part, of the messages about diet and disease relationships that reach the public. Several instances of significant commercial developments in the marketplace (e.g., reduced consumer purchase of table salt, increased consumer purchases of high fiber cereal) can be attributed directly to increased consumer concerns about specific diet/disease links.

Based on the U.S. experience with diet/disease health promotion efforts, it seems the substantial cognitive gains can be achieved in all segments of the population when biomedical/science, government, industry and the media coordinate their efforts to deliver health messages about specific diet/disease links to health practitioners and the general public. It is not altogether clear how this recent U.S. experience translates to situations where the scientific legitimacy of a health message is not so evident or where access to mass media communication channels is more limited. A crucial factor in other circumstances will almost certainly be the degree of consensus about a particular health claim within the relevant communities of government, industry and biomedical science. Scientific legitimacy, access to mass media and consensus among the involved parties are necessarily interrelated factors. At least in the U.S., these factors seem to constitute the practical conditions for the success of diet disease health promotion campaigns.

Bibliography

U.S. Department of Agriculture/U.S. Department of Health and Human Services. 1978. Dietary Guidelines for Americans, 24 pg. U.S. Government Printing Office, Washington, D.C.

U.S. Department of Health, Education and Welfare. 1979. Healthy People: The Surgeon General's report on health promotion and disease prevention. DHEW Publication No. (PHS) 795507. U.S. Government Printing Office, Washington, D.C.

U.S. Department of Health and Human Services. 1980. Promoting health/preventing disease: objectives for the nation. DHEW (PHS) Publication No. 79-55071. U.S. Government Printing Office, Washington, D.C.

U.S. Department of Health and Human Services. 1983. Promoting health/preventing disease. Public Health Service implementation plans for attaining the objectives for the nation. Public Health Reports, September-October (Supp. 1):132-155.

National Heart, Lung and Blood Institute. 1979. Report of the Hypertension Task Force, Vol. 1. General summary and recommendations. NIH Publication No. 79-1623. National Heart, Lung and Blood Institute, Bethesda, MD.

U.S. Department of Health and Human Services. 1981. The Public and High Blood Pressure. NIH Publication No. 81-2118. U.S. Government Printing Office, Washington, D.C.

Lenfant, C. 1986. The National Cholesterol Education Program, Public Health Reports, 101:2-3.

Lipid Research Clinics Program. 1984. The Lipid Research Clinics Coronary Primary Prevention Trial Results. II. The relationship of reduction in incidence of coronary heart disease to cholesterol lowering. JAMA 251:365-374.

National Institutes of Health. 1986. Lowering blood cholesterol to prevent heart disease. Consensus Development Conference Statement, Vol. 5, No. 7. Office of Medical Applications of Research, NIH, Bethesda, MD.

National Research Council, Committee on Diet, Nutrition and Cancer. 1982. Diet, nutrition and cancer. Washington, DC, National Academy Press.

Roper Organization. 1985. Report #85-8, 35. New York, New York.

Heimback, JT. Sodium, Hypertension, and the American public. Public Health Reports, 1985. 100:371-372.
A.C. Nielsen 1985

Levy, AS, RC Stokes. 1987. Effects of a health promotion advertising campaign on sales of ready-to-eat cereal. Public Health Reports, 102:398-403.

Heimbach, JT. Cardiovascular disease and diet: The public view. Public Health Reports, 1985, 100:5-12.

Schucker, BH, K Bailey, JT Heimbach, ME Mattson, JT Wittes, C Haines, DJ Gordon, JA Cutler, VS Keating, RS, Goor, BM Rifkind. Change in public perspective on cholesterol and heart disease: Results from two national surveys. Journal of the American Medical Association, 1987, 258:3527-3531.

Heimbach, JT. Risk avoidance in approaches to food choice. Clinical Nutrition, 1987, 6:159-162.

Heimbach, JT. The growing impact of sodium labeling of foods. Food Technology, 1986, 40(12):102-107.

Food and Drug Administration. 1987. Sodium Content of the Retail Food Supply,

NAS. 1989. Diet and Health: Implications for Reducing Chronic Disease Risk. National Academy Press. Washington, D.C.

DHHS. 1988. The Surgeon General's report on Nutrition and Health. DHHS (PHS) Publication No. 88-50210. U.S. Government Printing Office, Washington, D.C.

HEALTH CLAIMS IN ADVERTISING: A DISCUSSION

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The paper writers for this session are to be commended for valiant efforts of both quantifying the impact of information on the quality of product in a market and assessing the appropriate role of the government sector. The paper, "Recent Public Education Efforts About Health and Diet in the United States" by Alan Levy and James Heimbach, examines whether information on the relationship between health and disease will change the consumption patterns of consumers. They suggest that this affect is independent of the source of the information (government or industry). The paper, "Health Claims in Advertising and Labeling: A Study of the Cereal Market" by Pauline Ippolito and Alan Mathios, evaluates relative differences in the impact of government sector and industry provided information. Assuming both sources of information can be effective, the paper seeks to document the source that is most effective. The paper, "How Should Health Claims For Food Be Regulated?: An Economic Perspective" by John Calfee and Janis Pappalardo, assumes that information on health and health status can impact on consumer behavior and industry should provide the information. The paper seeks to define the government's role in regulating provider supplied information.

These papers make a unique contribution to the literature. They use market and consumer data to link information provided through advertising or the government and the quality of products. Most of the current empirical analysis documents the relationship between information and prices. We know that price lists, food coupons and other types of advertising reduce the price of food. We know that information decreases the price of physician services, eyeglasses and gasoline. Researchers have considered diverse consumer markets and shown a significant relationship between information and price in most of these markets. Moreover, the goods on which consumers need the most information about quality are "credence goods," goods for which we have difficulty assessing quality, even after the good's consumption. Additionally, a costly information seeking process is necessary to determine quality for these goods.

The papers in this session pertain to credence goods. The average consumer does not have a strong foundation in the epidemiology of food consumption. After consuming food, we don't know how it will increase our health status. If it doesn't increase our health status, we don't know whether this occurs because of some physical problem in our personal chemistry or whether the problem lies in the inability of the food to affect anyone's health status. The researchers ask, Will information about a credence good lead to the consumption of higher quality products? If so, who should provide the information? If provided, what restrictions should apply? Each of the researchers contends with assessment of a difficult research problem, given rather scanty data.

Levy and Heimbach use trend data to evaluate the impact of recent public education efforts that relate food characteristics to high blood pressure, cholesterol and cancer. They identify three major impact areas. They are public knowledge, belief and behavior. Additionally, they show that information/public education impacts on all three areas. Nonetheless, with the use of a simplistic model that identifies the relationship between the three impact areas, their data can be gleaned of more information. The task is to understand why sodium information was so effective in changing the quality of food consumed, why Kellogg's advertising that linked fiber and cancer was equally effective with a shorter time lag between information disclosure and behavioral changes (only six months between information delivery and impacts on fiber consumption, while impacts were four years latter for salt), and why a long-term, continuous information program linking fat and cholesterol has slowly changed behavior. Consider the following model:

Knowledge = f (information obtained, ability and cost of information processing, message delivery mode....)
Belief = g (new knowledge, prior circumstances, attitudes....)
Behavior = h (belief in the value of information, cost of behavioral change that includes considerations of cultural perspectives, habits, income...).

Levy and Heimbach show that after information was supplied, awareness of and belief in the relationship between salt and high blood pressure increased. Throughout 1978-86 and prior to the information program, consumers made extensive use of product labels and ingredient lists on food products. Thus, food labels with information on salt content were a low cost method of obtaining information about the salt content of food. Therefore, knowledge and belief about particular food products could easily change. Likewise, Kellogg's informational advertising campaign provided an easy method of reducing the cost of obtaining knowledge. The release of information relating fat and cholesterol through government research studies and dietary guidelines is a costly information process. According to the above model, this information method should lead to limited changes in knowledge and beliefs by some consumers. This hypothesis is consistent with the research findings.

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The above model also aides in understanding differences in the timing of the behavioral response to information provision. The cost of behavioral change relative to salt or fat intake is high. A total change in food consumption patterns is needed to incorporate health information about salt intake, i.e., an adjustment to differences in the taste of all food consumed occurs. Similarly, changing fat consumption patterns may require changing your food bundle to include foods that are more expensive. Thus, when consumer incomes were increasing during the 1975-80 expansion, the above model predicts a large behavioral impact on cholesterol intake. Finally, the model predicts an immediate behavioral change to incorporate fiber consumption. The intake of fiber is similar to supplementing the diet and reflects a low cost change in behavior. Thus, caution should be taken in associating the quantity of dollars spent on advertising with the short-term behavioral change in fiber consumption.

Ippolito and Mathios perfectly dovetail the Levy and Heimbach article. Rather than assume the information source is inconsequential, they specifically examine the relative impact of government provided information. Additionally, the role of Levy and Heimbach's three key impact factors are specifically incorporated in their theoretical model of demand for quality products.

Through the use of multiple data sources, they are able to show that producer advertising significantly changed fiber consumption (in contrast to government information) and there was not a corresponding or significant increase in sodium and fat consumption. Rather, sodium and fat consumption decreased. Also there was an increase in the number of high fiber cereals.

The strength of this paper is its creative assessment of the impact of advertising on information processing efficiency and information access. By regressing proxy measures of information processing skills, information access, culture, behavior and value, on the variable, fiber consumption, a more indepth assessment of the relationship between advertising, information and behavior is found. In this manner they find that advertising's role is to increase information access (decrease search cost), rather than increase the efficiency of information processing. This role leads to the resulting behavior change in fiber consumption.

A useful follow-up study would be one that considered a market with a different structure. Specifically, the cereal industry is oligopolistically structured and one in which significant brand identification and quality competition are historically associated with the market. Moreover, future studies of product markets should again consider the credence good. Pratt and Hoffer's (1986) preliminary analysis of mandated disclosure in the used car market (a more competitive market for a credence good) indicates that disclosure does not significantly increase the quality of used cars. Credence goods in other potential markets, including physician services (monopolistically competitive in structure) and insurance (competitively structured), are fruitful areas for future research.

Given the Ippolito research that suggests that producer advertising is more effective than government information provision, we are ready to consider the final question asked by Calfee and Pappalardo. They evaluate the appropriate role of the government as regulator of producer supplied information. The paper presents an excellent discussion of the tradeoffs of using a fixed standard rather than a flexible expected value standard in government regulation. While shown to be a valuable approach, the expected value approach is difficult to quantify. My comments for this article relate to methods of obtaining better estimates. Consider the following in developing measures of benefits and costs:

(a) Much could be learned by converting the benefits of changing health status to monetary form. For example, changes in heart disease could be linked to changes in medical expenditures, work-loss days in the home/labor market, and losses due to premature mortality. Thus, benefits would be readily comparable to costs.

(b) Historical data that examines previous changes in quality by individual sellers and the market responses of competitors is useful for developing measures of the probability that competing firms will increase their quality.

(c) Some assessment of Ippolito and Mathios' spillover effects would also be useful in quantifying the expected value approach.

Summary

These papers are excellent efforts to tackle an important, yet difficult policy concern. Data that allows similar assessments in previously unexplored product markets would aide future research.

PREDICTING CONSUMER COMPLAINTS: A STEP FORWARD

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A multi-nomial logit model is estimated to predict the probability of falling into one of three complaint action categories when dissatisfied with professional and personal services: no action, private, or public complaints. Several demographic, attitudinal, economic, and supply side factors are significant. Results are used to predict complaint probabilities.

Sellers all over the country have begun to focus on customer service as a way to stay ahead of the competition (TARP 1985; Forum Corporation 1988; Malech 1987; SOCAP 1989). The answer to the question, "who complains?", can be used as part of a defensive marketing strategy, which describes techniques used to retain customers (Fornell and Wernerfelt 1987). But a mere description of complainers may not be enough in today's marketplace. There is a need to understand the who and why of those that don't complain. These consumers are likely to stop using a product or service when dissatisfied, either outright or by switching to the competition. In these cases, sellers often have no clues as to why business was lost. Increased knowledge about dissatisfied consumers may increase sellers' ability target the correct market, and gives an indication of how to "stay close to the consumer." Ultimately, consumers should made be better off through availability of improved quality and service. A comprehensive, integrated model of complaining behavior that can address the above issues has been called for (Andreasen 1988; Bryant 1988). This research estimates part of such a model.

PREVIOUS WORK

Though conceptual models of complaining have been developed, much of the empirical work has been descriptive, with focus on individual elements of the complaint process, such as post-purchase dissatisfaction or seller response to complaints (Hirschman 1970; Andreasen 1977: Day and Landon 1977; Gronhaug 1977; Cohen 1973; Day et al. 1981; Fornell and Westbrook 1984; Gilly and Gelb 1982; Grim 1987; Maleck 1987). Andreasen (1987) has characterized four major categories of consumer complaint models: cost/benefit, personality model, learning, and restraints models. Researchers using the personality, learning, and restraints models found age, education, income, wealth, community involvement, behavior attribution, and political inclination are associated with differences in complaining behavior (Valle & Walendorf 1977; Warland et al. 1984; Duhaime and Ash 1981; Beardon 1983). Researchers who implemented the cost/benefit model considered the impact of prices on complaining behavior or the costs and benefits associated with complaining (Richens 1981; Hirschman 1970; Oster 1980).

A pilot study used a binomial logit specification of a model that integrated the personality, learning, and cost/benefit models of complaint behavior to predict the probability of complaining about services (Kolodinsky 1990). A binomial characterization of complaints, however, is inadequate to describe complaint actions. This study is a step at moving this model forward by using a multinomial logit model to predict complaints.

AN OPERATIONAL MODEL OF CONSUMER COMPLAINING BEHAVIOR

When consumers are dissatisfied with the pre- or post-purchase buying process, there are three major categories of actions to take: public, private, or no action (Day and Landon 1977b)[2]. Public complaints include complaints to a store, manufacturer, government, or private agency. Private complaints include boycotts, or warning others by word-of-mouth "advertising" (Richins 1983). With private action sellers are not made directly aware of dissatisfaction.

An economic framework can be used to describe complaint action. The demand for complaints depends on "sub-optimal" rather than "optimal" levels of satisfaction. Von Weizsacker's (1971) work on endogenous changes in tastes provides the framework. A short-run utility function is maximized in each of several periods to obtain "optimal" levels of demand. After demand is ascertained in any given period, consumers may learn their behavior was "sub-optimal". Preference structures accordingly. Demand becomes a function of previous demand.

A utility function for a consumer may be written

$$(1) \qquad U = v(q_{it}; P)$$

where q_{it} is consumption of good or service i in period t, (i-1,2,..N; t = 1,2,....,T) given preferences. A consumer's budget constraint can be written for each period:

$$(2) \qquad Y_t = P_{it}q_{i\ t} + P_{ct}C_t$$

where

Y_t = total income in period t

P_{it} = price of good i purchased in period t i = 1,2,3,.....,N

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[2] Pre-purchase complaints may take place due to dissatisfaction with advertising, incomplete information, or salesperson tactics, for example.

q_{it} = quantity of good i purchased in period t
P_c = price of complaint in period t
C_t = Complaints in period t.

Obtaining information and consumer complaints may involve both time and purchased input costs. These are implicitly included in the cost of complaining, P_c.

Given (1) and (2), above, "optimal" levels of demand can be derived based on consumers' *A. priori* preference structures. Demand for a particular complaint action depends on satisfaction in the previous period, prices, income, and preference and productivity shifters, which include both personality characteristics, non-pecuniary, and time restraints.

An Application to Services

There are three categories (y=0,1,2) of complaint action: no action, private, and public complaints. Let P_0, P_1, and P_2 be the probabilities associated with these categories. The binary forms are:

$$P0(y=0) = \frac{1}{1 + \exp\beta_1 x + \exp\beta_2 x} \tag{3.a}$$

$$P1(y=1) = \frac{\exp\beta_1 x}{1 + \exp\beta_1 x + \exp\beta_2 x} \tag{3.b}$$

$$P2(y=2) = \frac{\exp\beta_2 x}{1 + \exp\beta_1 x + \exp\beta_2 x} \tag{3.c}$$

where β are vectors of estimated coefficients and x are vectors of exogenous variables (Maddala 1983). Subscripts have been dropped for convenience. For estimation, consider that an individual falls into one of the 3 categories with the probabilities given above. Their linear forms are:

$$\log\frac{P_1}{P_0} = \alpha_1 + \beta_1 X \tag{4a}$$

$$\log\frac{P_2}{P0} = \alpha_2 + \beta_2 X \tag{4b}$$

$$\log\frac{P_2}{P_1} = (\alpha_2 - \alpha_1) + (\beta_2 - \beta_1) X \tag{4c}$$

This model is estimated using a maximum likelihood, multinomial logit procedure available in the software package LIMDEP (Green 1986).

Data were collected by a mail survey sent to a simple random sample of 1500 households in Vermont in the Spring of 1989. Questions were developed by examining surveys used by other researchers interested in consumer complaining behavior (Day and Landon 1979; Ash and Quelch 1979; Duhaime and Ash 1981; Day and Bodur 1977; Marketing Science Institute 1985; Berry, et al. 1985). The questionnaire was pre-tested using a panel of experts skilled in survey research, and by students in a university level Consumer Motivation course. Data was collected about satisfaction and complaining behavior associated with services, attitudes toward consumerism and the business community, and demographics. A total of 509 questionnaires were returned completed. 147 (29 percent) expressed dissatisfaction with a professional or personal service[3]. Table 1 describes the entire sample, the portion of the sample that was dissatisfied, and the non-respondents. The subsample differs significantly from the entire sample with regard to only two variables: price of the item and number of young children. Those dissatisfied with professional and personal services spent more on the services and had fewer young children at home. Non-respondents were significantly older and fewer were employed. They had less education, fewer younger children, and were less likely to be married.

Table 1. Descriptive Statistics

VARIABLE	DEFINITION	DISSATISFIED SAMPLE	ENTIRE SAMPLE	NON-RESPONSE
PRICE	Price	393.19[m] (1181)	122.71[m] (683)	na
INCOME	Annual income	33265[m] (19607)	31857[m] (20833)	na
INCAT0	Income < $25,000	.36P	.27P	na
INCAT1	Income between $25-50,000	.44P	.49P	na
INCAT2	Income > $50,000	.20P	.24P	na
PART	Employed one to 30 hrs /week	.14P	.10P	.11P
FULL	Employed > 30 hours/week	.68P	.64P	.54P
YNGKIDS	Number of children under 6	.22P	.16P	.18P
SIZE	Company dissatisfied with is large	.18P	na	na
URGE	Company offers an incentive for consumer voice	.26P	na	na
AGE	Age of respondent	45[m] (13)	48[m] (15)	50[m] (16)
COLL	Completed college	.60P	.59P	.23P
PREPUR	Dissatisfaction before purchase	.49P	na	na
DISAT	Respondent was very dissatisfied	.32P	na	na
FEMALE	Respondent is female	.46P	.45P	.48P
MARRIED	Respondent is married	.83P	.75P	.69P
RURAL	Respondent resides in a rural area	.46P	.38P	.38P
CONSUMER	Index: do sellers care about consumers	0[F]	na	na
CONSPER	Index: Respondent is interested in consumerism	0	na	na
		N=147	N=509	N=100

[m] Mean value is given
[F] Created using Factor Analysis
[P] Proportion of the sample is given
Standard deviations are given in parentheses

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[3] 100 non-respondents were contacted to identify whether they differed from those who completed the survey in any systematic way. Only one non-respondent indicated dissatisfaction with a professional or personal service.

Several independent variables are expected to influence the probability of either public or private complaining, compared to taking no action. Economic influences include price of the service (PRICE), and family income (INCAT1, INCAT2). PRICE is expected to have a positive influence on complaints. A more expensive item represents more of a loss to a consumer if there is a problem with it. The effect of INCAT1 and INCAT2 will indicate if complaints are normal goods.

Employment of a respondent outside the home (PARTIME, FULLTIME) and the presence of children under the age of six (YNGKIDS) measure time constraints. These variables are expected to have a negative influence on complaints since market work and presence of young children compete for available time.

Dealing with companies perceived to be large (SIZE) and whether the company offered some sort of outward customer service (URGE), such as toll-free telephone numbers to attract consumer comments, or offered a warranty, guarantee, or service contract, measure a possible softening of constraints. Based on previous research, SIZE is expected to have a negative influence on complaints, as consumers may feel that their complaints will not make a difference (Day and Ash 1979). URGE should exert a positive influence on complaints (Kendall and Russ 1975).

Learning is measured by age of respondent (AGE), and whether or not a college education was completed (COLL). Persons with a college degree may be better at problem solving, while older consumers may be more experienced at problem solving due to increased experience, or may have decreased abilities, due to old age. Previous research found ambiguous effects of age (Mason and Beardon 1981).

Attitudes are measured by two factors extracted from 21 different statements using Analysis (Appendix B). These are CONSPER, a measure of consumer attitudes toward business, and CONSUMER, a measure of consumer attitudes toward consumerism (Warland, Herrmann, and Moore 1984). CONSPER should impact negatively on public complaints because the factor is framed in terms of negative perceptions of business' willingness to respond favorably to consumers. CONSUMER should impact positively on complaints because consumers interested in the consumer movement may take steps to advance it forward.

Five additional variables are included in the analysis: the stage of the buying process dissatisfaction occurred (PREPUR), the level of dissatisfaction (DISAT), gender (FEMALE), marital status (MARRIED), and region (RURAL). Little is known about complaining before purchase. Inclusion of PREPUR may give insight into what happens when dissatisfaction occurs before actual purchase. If a consumer is very dissatisfied (DISAT), the probability of taking some type of complaint action should increase (Richins 1983). Previous research has found that, for some items, men complain more (Duhaime and Ash 1981). The items, however, included only those previously associated with male purchases, such as automobiles and financial services. Thus, no prediction is made as to the expected effect of FEMALE. Marital status (MARRIED) was included to test the hypothesis that married persons may complain more to each other in the form of private complaints. Research has found that rural consumers tend to be more satisfied with their buying experiences (Leisfeld 1981). However, little is known about differences in the way rural consumers behave if they are dissatisfied.

RESULTS

Results are presented in Table 2. The coefficients represent a change in the log odds of private or public complaints, compared to taking no action. Many of the included variables are significant and of the expected sign.

Table 2. Estimated Results

VARIABLE NAME	PRIVATE COMPLAINTS	PUBLIC COMPLAINTS
INTERCEPT	4.19	4.34
	(2.08)**	(2.19)**
PRICE	.0025	.0034
	(.0013)**	(.0013)***
INCAT1	1.51	.54
	(.70)**	(.66)
INCAT2	-.64	-1.38
	.83)	(.85)*
PART	.44	-.52
	(.94)	(1.04)
FULL	-.63	-.26
	(.88)	(.90)
YNGKIDS	1.18	-1.45
	(.56)**	(.61)**
SIZE	-1.44	-3.05
	(.83)*	(.99)***
URGE	.052	.378
	(.62)	(.61)
AGE	-.06	-.07
	(.02)**	(.03)**
COLL	-.51	-.12
	(.60)	(.58)
CONSPER	.52	-.002
	(.30)*	(.28)
CONSUMER	-.53	.50
	(.29)*	(.31)*
PREPUR	1.6	-1.79
	(.58)***	(.58)***
DISAT	2.89	1.61
	(.72)***	(.75)**
FEMALE	-1.09	-1.02
	(.62)*	(.64)
MARRIED	-1.58	-.001
	(.81)**	(.86)
RURAL	.25	-.89
	(.56)	(.59)

N-147 Log Likelihood -106.76

*Significant at the .10 level

**Significant at the .05 level

***Significant at the .01 level

Clearly the above results may be useful to sellers of professional and personal services. A trend in providing quality service is emerging on the supply side of the market (Forum Corporation 1988; Grim 1987; Maleck 1987). By identifying characteristics of consumers who are more or less likely to complain, or to use a particular channel of complaint action, sellers can target programs to reach consumers who do not voice their complaints or do so in ways that do not reach the seller. Demographically, younger families and those without young children are more likely to use public means to voice their dissatisfaction, while older or higher income families are less likely to use public voice. Middle income households are more likely to engage in private complaints, while being older, having young children, being married, or being female decrease the likelihood of engaging in private complaints about personal and professional services.

One supply side factor was significant. If a consumer perceives a seller to be large, both the log odds of private and public complaints decrease. The effect is greater for public complaints.

Increases in age are significant and negatively associated with both private and public complaints. Older persons may be less efficient in their interactions with the marketplace. They may have fewer available resources, feel that they are unimportant, or it just may take them longer to complete an action.

If a consumer has a negative attitude toward business, (CONSPER) the log odds of private complaints increase significantly, but public complaints are not affected. On the other hand, if a consumer is interested in consumerism (CONSUMER), the log odds of private complaints decreases and public complaints increase.

The effect of dissatisfaction occurring before purchase significantly and negatively affects of the log odds of both private and public complaints. Perhaps consumers do not know of the proper channels to take when dissatisfied with some aspect of the buying process that occurs before purchase. As expected, if a consumer is very dissatisfied with a service, the log odds of both private and public complaints increase significantly. The effect on private complaints, however, is greater. This reinforces previous findings (Richens 1983).

Being female or married only affects private complaints, and both are negative. Many items mentioned by respondents were not those traditionally purchased by males, making this result puzzling. The stereotype of females talking more to friends than males about different subjects does not fit this finding. Finally being married exerts a significant and negative effect on private complaints. One interpretation is that respondents did not consider spouses as "friends or relatives" when asked about private complaints.

The effect of economic variables is mixed. Price is significant and positive. The more expensive the professional service, the higher the monetary loss involved. Consumers may also be more involved with the purchase. The effect of income is not straightforward. An annual income between $25,000 and $50,000 increases the log odds of private complaints, but is not significant in increasing public complaints. An annual income of over $50,000 significantly decreases the log odds of public complaints, but does no significantly decrease the log odds of private complaints. The effect of income is not linear. One might conclude that for middle incomes private complaints are normal, while for high incomes public complaints are inferior.

The effects of time constraints are mixed. Employment, does not effect complaint behavior. The presence of young children significantly decreases both private and public complaints.

Attitudes are also important. Respondents who perceive that a seller is just "out to make a buck" are more likely to use word of mouth advertising to voice complaints to friends and relatives. A seller may want to use a public relations strategy to change consumers' perceptions. On the other hand, consumers concerned with consumerism are more likely to use public voice. Perhaps sellers should sell a little consumerism along with their services. It might help them in the long run. It also appears that consumers may not know correct channels to take if dissatisfaction occurs at the pre-purchase stage of buying. If dissatisfaction at this stage leads to consumers not purchasing a service, perhaps sellers should make clear a policy that includes channels for consumer voice.

On the supply side, it appears that, for professional and personal services, supplying the usual incentives for consumers to voice their opinions, including toll-free telephone numbers, guarantees and warranties, does not encourage voice. Perhaps money spent is wasted on these efforts for this category or services, or consumers are not aware of when and how to use the incentives. In addition, large companies seem to scare consumers away. In addition, if a seller has an "image" problem in which a consumer believes he/she is only out to make a buck, private complaints increase, while public complaints do not change. Perhaps a new public relations strategy is necessary for these sellers.

While the above discussion can be useful, a more direct interpretation of the results can indicate exactly how changes in certain characteristics effect the probability that a consumer will engage in public or private complaints, or take no action. Predications of probabilities using means and modes of the data as starting points indicate that, for professional and personal services, the probability of private complaints is .035, the probability of public complaints is .229, and the probability of taking no action is .784. One can change the "average" consumer and the circumstances surrounding dissatisfaction with a professional service to examine what happens to the probabilities. Interpretation of the values is as follows: what is the effect on the probability of a particular complaint action if the variable of interest changes and all other variables remain constant? Table 3 reveals that relatively large decreases in the probability of taking no action occur if dissatisfaction occurs post-purchase, if a consumer is relatively young or male, if a household has no young children, or if the service price was high. The probability of taking no action increases by a relatively high percentage if the company dissatisfied with is large or a household makes over $50,000 per year.

Table 3. Predictions of Complaint Action

VARIABLE	VALUE	PREDICTED PROBABILITIES NO ACTION	PRIVATE COMPLAINT	PUBLIC COMPLAINT
PREPUR	0*	.785	.035	.18
	1	.955	.0084	.036
DISAT	0*	.785	.035	.18
	1	.337	.276	.385
AGE	33[a]	.623	.058	.317
	45*	.785	.035	.18
	57[a]	.889	.02	.091
FEMALE	0*	.785	.035	.18
	1	.911	.014	.075
MARRIED	0	.69	.152	.158
	1*	.785	.035	.1
SIZE	0*	.785	.035	.18
	1	.978	.011	.011
YNGKIDS	0*	.785	.035	.18
	1	.937	.013	.051
PRICE	0[a]	.934	.018	.053
	393	.785	.035	.18
	1574[a]	.071	.070	.857
CATINC	<25,000	.874	.009	.117
	25-50,000*	.785	.035	.18
	>50,000	.962	.006	.032

*Represents values of an "average" consumer: male, age 45, college educated, married, no young children, employed full time, annual income between $25 and $50,000, not rural, not very dissatisfied with purchase from a small or medium sized company that did not give an incentive for consumer voice. [a]Values reported are one standard deviation from the mean value. Probabilities may not sum to exactly one due to rounding.

Relatively large decreases in the probability of taking no action occur if consumers are very dissatisfied with a service, if dissatisfaction occurs after actual purchase, and if a consumer is married. Large increases in the probability of taking no action occur if the price of the service is high. The probability of public complaints increases by a relatively large amount if a consumer is very dissatisfied with a service actually purchased and the price of the service is high. A relatively large decrease occurs if a consumer has young children, a consumer is older, the service has no cost, and income levels are above $50,000.

The above results suggest strategies which might be helpful in designing a successful customer service campaign that aids consumers:

1. Inform consumers that the seller is interested in providing complete satisfaction, regardless of product price;
2. Provide educational materials to lower-income, and aged households as to how to contact a seller when dissatisfied;
3. Promote the notion that sellers are aware that customer voice is an important aspect of improving market transactions and that even large sellers are consumer oriented;
4. Outline a specific policy dealing with dissatisfaction that occurs pre-purchase, including dissatisfaction with advertising or sales persons; and
5. Promote relatively efficient ways of voicing dissatisfaction, to encourage public voice from households faced with time constraints (however, for professional and personal services supplying toll-free telephone numbers does not effect complaint action).

Many of these defensive marketing strategies are already used by sellers of services. The results indicate that they appear to be useful to those sellers and might prove useful to others who have not yet implemented them. Strategy 3 is often avoided by sellers. Perhaps public relations campaigns promoting consumerism may actually help sellers in retaining customers and attracting others.

DISCUSSION

The model estimated in this study is a step forward in predicting consumer complaint action. Because it includes those who take no action or private action as well as those who use public action, the results can be useful in developing defensive marketing strategies. The model is relatively simple to estimate and calculated probabilities are easily interpreted. Further simulations can paint a picture of how complaint actions change as scenarios change. However, there are several limitations to the study that warrant future research.

First, the data included only professional and personal services. Little is known about the complaint action of consumers who are dissatisfied with other services. Others should be examined to see if consumers behave differently depending on service category. Second, a complete model of the complaint process should include resolution of complaints and future demand. The model proposed can be expanded to include these because it includes the passage of time. Empirically, this suggests a recursive model. Dissatisfaction leads to complaints which lead to some sort of problem resolution which can affect future demand. Third, the model included supply side factors as exogenous. It is probably the case that supply and demand side factors are determined simultaneously. An extension of the model might not only include a recursive specification, but one that is block recursive. That is, complaints and resolutions might be simultaneously determined, while initial complaints and subsequent demand enter the system recursively. One major problem with such a model is the fact that limited dependent variable recursive models are currently developed for the two choice case only. Complaint actions include at least three choices. This causes problems in empirical estimation.

REFERENCES

Andreasen, Alan, (1977), "A Taxonomy of Consumer Satisfaction/Dissatisfaction Measures," Journal of Consumer Affairs, 11(2) Winter, pp. 11-23.

Andreasen, Alan, (1988), "Consumer Complaints and Redress: What We Know and What We Don't Know," in The Frontier of Research in the Consumer Interest, E. Scott Maynes and the ACCI Research Committee, eds., American Council on Consumer Interests, 1988, pp. 675-722.

Ash, Steven, and John Quelch, (1979), "Consumer Satisfaction, Dissatisfaction and Complaining Behavior: A Comprehensive Study of Rentals, Public Transportation, and Utilities," in Day and Hunt, New Dimensions of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, Indiana University School of Business, 120-130.

Beardon, William, (1983), "Profiling Consumers Who Register Complaints Against Auto Repair Services," Journal of Consumer Affairs, 17(2), Winter, pp. 315-335.

Bryant, W. Keith, (1988), "Consumer Complaints and Redress: Some Directions for Future Research," in The Frontier of Research in the Consumer Interest, E. Scott Maynes and the ACCI Research Committee, eds., American Council on Consumer Interests, 1988, pp. 723-726.

Cohen, David, (1973), "How Product Complaints Help Improve Performance," Management Review, July, pp. 9-16.

Day, Ralph, and Steven Ash, (1979), "Comparison of Patterns of Satisfaction/Dissatisfaction and Complaining Behavior for Durables, Nondurables, and Services," in Day and Hunt, eds. New Dimensions of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior, 190-195.

Day, Ralph, and Muzaffer Bodur (1977b), "A Comprehensive Study of Satisfaction with Consumer Services," in Day, Ralph, ed. Consumer Satisfaction, Dissatisfaction, and Complaining Behavior, Indiana University School of Business, 64-74.

Day, Ralph, and E. Laird Landon, (1977), "Toward A Theory of Consumer Complaining Behavior," in Woodside A., J. Sheth, and P. Bennett, Consumer and Industrial Buying Behavior, New York: North-Holland, pp.425-437.

Day, Ralph, and E. Laird Landon, (1977), "Collecting Comprehensive Complaint Data By Survey Research," in Day, ed. Consumer Satisfaction, Dissatisfaction, and Complaining Behavior, Indiana University School of Business, 263-268.

Day, Ralph, Thomas Schaetzle, Klaus Grabicke, and Fritz Staubach,(1981), "The Hidden Agenda of Consumer Complaining," Journal of Retailing, 57(3), Fall, pp. 86-106.

Duhaime, Carole, and Stephen Ash, (1981), "Satisfaction, Dissatisfaction and Complaining Behavior: A Comparison of Male and Female Consumers," in Day and Hunt, editors, Refining Concepts and Measures of Consumer Satisfaction and Complaining Behavior, Bloomington, IN: School of Business, Indiana University, pp. 102-111.

Fornell, Claus, (1978), "Economic Constraints on Consumer Complaining Behavior," in Olsen, Jerry, editor, Advances in Consumer Research: Proceedings of the Association for Consumer Research, Tenth Annual Conference, pp. 318-323.

Fornell, Claus, and Birger Wernerfelt, (1987), "Defensive Marketing Strategy by Customer Complaint Management: A Theoretical Analysis," Journal of Marketing Research, 24 (November) 337-46.

------------, and Robert Westbrook, (1984), "The Vicious Circle of Consumer Complaints," Journal of Marketing, 48(Summer), pp. 68-78.

The Forum Corporation (1988), "Consumer Focus Research," Alexandria, VA.

Gilly, Mary, and Betsy Gelb, (1982), "Post-purchase Consumer Processes and the Complaining Consumer," Journal of Consumer Research, 9(December), pp. 323-328.

Green, William, (1986), Limdep, variable equations.

Grim, Cynthia, (1987), "Understanding and Reaching the Consumer: A Summary of Research. Part I - Consumer Complaint Behavior," Mobius, Spring, pp. 14-19.

____________ (1987), "Understanding and Reaching the Consumer: A Summary of Recent Research. Part II - Complaint Response Satisfaction and Market Impact," Mobius, Fall, pp. 18-25.

Gronhaug, Kjell, (1977), "Exploring Consumer Complaining Behavior: A Model and Some Empirical Results," in Advances in Consumer Research, Vol IV. William Perrault, Jr., editor. Chicago: Association for Consumer Research. pp. 159-165.

Hirshman, A.O., (1970), Exit, Voice, and Loyalty: Responses to Declines in Firms, Organizations, and States, Cambridge, MA: Harvard University Press.

Kolodinsky, Jane, (1990), "An Integrated Model of Consumer Complaint Action Applied to Services: A Pilot Study," The Journal of Satisfaction, Dissatisfaction, and Complaining Behavior, Vol. 3 pp. 61-70.

Lawther, Karen, S, Krishnan, and Valerie Valle, (1978), "The Consumer Complaint Process:

Directions for Theoretical Development," in Keith Hunt, *Consumer Satisfaction and Complaining Behavior*, Bloomington, IN: School of Business, Indiana University), pp. 10-14.

Leisfeld, John, (1981), "Urban/Rural Consumer Expectations and Evaluations of the Consumer Realities," in Day and Hunt, editors, *Refining Concepts and Measures of Consumer Satisfaction and Complaining Behavior*, Bloomington, IN: School of Business, Indiana University, pp. 102-111.

Maddala, G.S. (1983), *Limited Dependent and Qualitative Variables in Econometrics*, (Cambridge: Cambridge University Press).

Maleck, Arlene, (1987), "The Changing Complaint Handling Environment: Implications for the Consumer," in Proceedings of the 33rd Annual Conference of the American Council on Consumer Interests, Vickie Hampton, editor, pp. 1-7.

Marketing Science Institute, "Consumer Attitude Questionnaire," Cambridge, MA.

Mason, J. Barry, and William O. Beardon, (1981), "Consumer Satisfaction and Elderly Shopping Behavior," in Day and Hunt, editors, *Refining Concepts and Measures of Consumer Satisfaction and Complaining Behavior*, Bloomington, IN: School of Business, Indiana University, pp. 102-111.

Oster, Sharon, (1980), "The Determination of Consumer Complaints," *Review of Economics and Statistics*, 62(4), 603-609.

Richins, Marsha (1981), "Consumer Perceptions of Costs and Benefits Associated with Complaining," in Hunt and Day, editors, *Refining Concepts and Measures of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior*, Bloomington IN: School of Business, Indiana University, pp. 50-56.

------------, (1983), "Negative Word-of-Mouth by Dissatisfied Consumers: A Pilot Study," *Journal of Marketing*, 47(Winter), pp. 68-78.

SOCAP, (1989), "1988 Award Winning Programs", *Mobius*, 7(1), Winter, pp. 13-21.

TARP, (1986), Consumer Complaint Handling in America: An Update Study Parts I-II.

Valle, Valerie, and Melanie Walendorf, (1977), "Consumer Attributions of the Cause of Their Product Satisfaction and Dissatisfaction," in R. L. Day, editor, *Consumer Satisfaction and Complaining Behavior*, Bloomington, IN: School of Business, Indiana University.

von Weizsacker, Carl C. (1971), "Notes on Endogenous Changes in Tastes," *Journal of Economic Theory*, Vol 3. pp. 345-72.

Warland, Rex, Robert Herrman, and Dan Moore, (1984), "Consumer Complaining and Community Involvement: An Exploration of Their Theoretical and Empirical Linkages," *Journal of Consumer Affairs*, 18(1), Summer, pp. 64-78.

Warland, Rex, Robert Herrman, and Jane Willits, (1975), "Dissatisfied Consumers: Who Gets Upset and Who Takes Action?" *Journal of Consumer Affairs*, Vol. 9, pp. 148-163.

APPENDIX A: Professional and Personal Services

lawyers
home security services
architects
travel agencies
nursing or rest homes
dentists or technicians
computer dating
psychologists
optometrists or ophthalmologists
veterinarians
private detectives
employment agencies
barber shops/beauty salons/spas
real estate brokers
income tax preparers
medical doctors/nurses
physical therapists

APPENDIX B: Factor Analysis - Attitudes

Respondents were asked to indicate whether they agreed or disagreed (using a five point Likert scale) with fifteen statements about consumer interaction with the marketplace. Factor Analysis using Varimax rotation was used to identify two factors that explained 89 percent of variation in the data. These factors were called CONSPER and CONSUMER. CONSPER is a measure of consumer attitudes toward business. Statements that received high positive factor loading on the first factor included: "If people have problems or complaints about things they buy, it is often difficult for them to get corrected," "Most companies are so concerned about making a profit, they don't care about quality," "Most manufacturers don't really care about giving consumers a fair deal," "Most stores don't care bout giving consumers a fair deal," and "'Let the Buyer Beware' is the motto of most stores." The statement "In general, manufacturers try to design products/services to fit the needs of the consumer," and "Over the past five years the quality of most products/services has improved" received a high negative factor loading for the firt factor. CONSUMER measures a consumer's attitudes toward consumerism. High positive factor loadings for the second factor included the statements: "There is a need for consumers in this country to get together to protect their interests," "I often read Consumer Reports before I buy an item," and "I often discuss the need for better consumer protection with family and friends. Factor one and two are used in the logit analysis as measures of how attitudes affect complaint action.

AUTO REPAIR SERVICE PROVIDER PERCEPTIONS OF CONSUMERS' ATTITUDES: SATISFACTION, QUALITY, AND SELECTION CRITERIA

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A mail survey of Sacramento, California, auto repair service providers elicited information on perceptions of consumer satisfaction, service quality for 10 types of service providers including auto repair services, and the importance ratings of 12 choice criteria for the selection of an auto repair service provider. The two most important selection criteria for auto repair providers and as perceived for consumers by auto repair providers were "reputation/recommendation" and "consumer's previous experience with provider."

INTRODUCTION

Service industries in the United States have been the fastest growing business this decade. Estimates released by the U. S. Bureau of Labor Statistics (1987) show that by the year 2000, one-fourth of all the jobs will be in the service sector. The auto repair and services sector, for example, has gone from 600,000 jobs in 1970 to well over 1.2 million jobs in 1987 (up 112%), far exceeding the forecasters estimates of 1.1 million jobs in 1990 (U.S. Bureau of the Census 1989; Moskal 1985; U.S. News & World Report 1980). There are numerous factors contributing to the growth in employment in the auto repair and services industry including technological advances in the automobile manufacturing industry, tougher state requirements for automobile inspection, and safety enforcement and emission standards. In addition, economic factors such as the 1982 recession, high interest rates, and five year automobile financing have played a role in forcing consumers to become budget minded. This has also resulted in consumers now keeping their automobiles for longer periods with the average today being 7 years versus 5 years. Now more than ever, consumers need to know more about auto repair and services available to them before they select an auto repair service provider.

Although consumers are fairly sophisticated, have high expectations, and are not willing to settle for substandard services, many of them have little knowledge of what is under the hood of their automobiles. According to the National Highway and Traffic Administration 40 percent of the auto repairs in the United States are unnecessary and cost consumers approximately $20 billion each year (U. S. Department of Transportation 1981). Some states, such as California, have adopted legislation to protect consumers. The California Automotive Repair Act of 1971, for example, requires auto repair shops to register with the State Department of Consumer Affairs and, they must post a sign informing consumers of their rights (Bureau of Automotive Repair 1988). Consumers, however, should make a conscious effort and acquire some knowledge of their automobile's operating parts, such as by reading their car manual or attending car care clinics. There appears to be little information available to guide the consumer in the selection process for an auto repair service provider. Consumers would like to have additional information describing available options prior to selecting an auto mechanic or an automotive repair shop (Brown 1985). Schutz and Judge (1986) studied selection criteria for choosing 16 occupational service providers including auto repair services. They reported that consumers do take a more active role in selecting certain service providers and, as a result they experience a higher degree of service satisfaction. Other research on consumer satisfaction and dissatisfaction has focused primarily on health and legal services or on sets of services selected by the investigators (Hill 1986; Quelch and Ash 1981; Schutz, Diaz-Knauf and Judge 1987; Schutz and Judge 1983).

The increase in the demand for services in the 1980s resulted not only in a growth spurt for various sectors of the service industry but has also brought about intense competition among service providers, including auto repair and services. For example, today consumers may select from three types of auto repair service providers currently available in the marketplace, such as independent, dealership, or a chain/ specialty (i.e., TuneUp Masters, Sears, Aamco, etc.). This has resulted in the adoption of marketing and advertising strategies nationwide by auto repair and service shops as a means of survival. It is also important to determine how auto service providers view the quality of their own activities as well as how they perceive the satisfaction of consumers (in relation to actual consumer views) in order to develop a strategy for satisfying the consumer and thus improving the likelihood of customer satisfaction and loyalty.

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The purpose of this study was to gather data from auto repair service providers in Sacramento, California, eliciting their opinions on the overall quality of services and their perceptions of consumer satisfaction for 10 selected services, as well as to determine the importance of 12 selection criteria for auto service providers. And, also to compare these data to data collected from a consumer survey conducted in the same area.

MATERIALS AND METHODS

A mail survey of 500 Sacramento, California auto repair service providers was conducted during June/July 1985 using the California Department of Consumer Affairs Bureau of Automotive Repair membership list as the sampling frame and a systematic random sampling procedure. The data were collected using a three-wave mailing technique as follows: first, a letter and questionnaire were mailed to each auto repair entity in the sample; second, a reminder postcard was sent one week after the first mailing; and third, another letter and questionnaire were sent three weeks after the initial mailing to those auto repair service providers from whom no response had been received (Dillman 1978). Forty-five percent of 473 deliverable questionnaires were completed and returned by using this mailing method. The six page questionnaire required approximately 30 minutes to complete. Cross-tabulations of 69 selected variables by week of return did not indicate any statistically significant monotonic trend differences over time; evidence that there is minimal non-responder bias. This is based on the assumption that non-responders most closely resemble in their answers those individuals who return their questionnaires late in the survey. In addition, for homogeneous groups this level of response is considered appropriate with regards to non-response bias (Leslie 1972).

Questions were asked concerning service quality and the service transaction, and information was requested on general attitudes towards consumer services including quality, cost and government regulations. Ten categories of service providers were listed, and respondents were asked to provide ratings on consumer satisfaction and on the quality of the service. Types of services included repair of goods, personal, professional and home repair. A list of 12 characteristics used by consumers to select a service provider was included, and auto repair service providers were asked to provide importance ratings for each criterion for auto repair services on a scale of 1 "not important" to 10 "very important." The respondents were also asked to indicate their perceptions of consumers' ratings for each criterion. After examining the distribution of importance values, the 10 point scale was collapsed to 5 points to better approximate normality and the values were recoded (Nie 1975; and SPSSX User's Guide 1988). For example, 1 and 2 were recoded to 1 and so on. A series of statements characterizing consumer attitudes toward five aspects of auto repair services were measured on a 5 point Likert type scale.

Demographic information was requested from each respondent, and information on specialization, clientele, business size, etc. was requested for each respondent's auto repair service shop.

RESULTS AND DISCUSSION

Characteristics of the Auto Repair Service Shops

The general characteristics of the auto repair services are given in Table 1.

TABLE 1. Characteristics of sample of California auto repair service shops.

Type of Services Provided	f	%
Wide range	101	48.3
Specialized	108	51.7
	209	
Years in Business		
1-10 years	74	35.4
11 years or more	135	64.5
	209	
Years in Current Locale		
1-10 years	143	69.1
11 years or longer	64	30.9
	207	
Affiliation		
Independent	168	80.0
Member of chain, group or firm	42	20.0
	210	
Yearly Service Transactions by Chain, Group or Firm		
<100-250 service transactions	15	8.7
251-1,000 service transactions	39	22.6
>1,000 service transactions	100	68.5
	154	
Gross Business Income for Independent Owned Shops		
Less than $74,999	45	28.6
$75,000-224,999	64	40.8
$225,000+	48	30.6
	157	

General Information

The questionnaire completed by the respondents contained 69 items assessing opinions on consumer satisfaction, overall quality of service, 10 types of service providers including auto repair, consumer selection criteria, consumer and auto repair provider attitudes, and demographic characteristics. Fifty-eight percent of the sample rate quality of general consumer services available in the marketplace as "good" or "very good" (Table 2). Twenty-nine percent of the respondents believe that overall quality of services over the last ten years has "stayed the same," 36 percent "increased", and 35 percent "decreased." Cost of services was viewed as "high" by 49 percent of those surveyed. Forty-three percent of respondents are satisfied with the current level of government regulation for auto repair services, 46 percent said they would like "less," and 10 percent see the need for "more" regulation (Table 2). Respondents were not asked to provide additional comments or to elaborate on this question, so we are unable to determine what aspect of regulation is considered too little or excessive.

TABLE 2. General attitudes toward consumer services.

Overall Quality of Consumer Services	
Very Good	7.8%
Good	50.5%
Fair	37.7%
Poor	3.9%
N = 204	
Quality of Services Over the Last 10 Years	
Increased	35.6%
Stayed the Same	29.3%
Decreased	35.1%
N = 208	
Cost of Services to Consumer	
Extremely High	13.5%
High	48.8%
Average	35.3%
Low	2.4%
N = 207	
Future Government Regulation of Auto Repair Service Providers Qualifications	
More Regulation	10.2%
Same Regulation	43.7%
Less Regulation	46.1%
N = 206	

Perceptions of Consumer Satisfaction

Auto repair service providers were asked to rate 10 types of service providers including auto repair on their opinion of how satisfied consumers were with the services. There is considerable variation in the ratings for both perceived consumer "satisfaction" and "dissatisfaction" among the 10 services (Table 3). Auto repair service providers believe that consumers are "most satisfied" with barber/beautician, dentist, and dry cleaners (96.7, 92.0, and 91.5 percent "satisfied," respectively), and "least satisfied" with real estate and legal services (59.0 and 50.6 percent "satisfied," respectively). Among the repair services listed, auto repair ranked the lowest with 68.4 percent of auto repair service provider respondents indicating perceived consumer satisfaction. These results are similar to actual consumer evaluations reported in an earlier study among Sacramento area residents (Schutz and Casey 1982) and for the general California population for the same services (Schutz 1979) (Table 4).

Among the repair service groups, auto repair service providers do not enjoy a good public image. This can be attributed, in part, to mechanics and repair shops who conveniently misdiagnose the problem, overcharge for repairs and/or for work not performed, and use low quality replacement parts. There are also unskilled mechanics that contribute to this problem. Auto repair service providers, for the most part, correctly assess consumer satisfaction with the services they provide (Table 4). Sixty-eight percent of responding auto service providers considered consumers as "satisfied" or "somewhat satisfied" with auto repair services (Table 4). These ratings are very similar to those reported by Schutz and Casey (1982) where 65.6 percent of Sacramento area consumers rated auto repair services as "satisfactory" or "somewhat satisfactory." Thus, auto repair providers have a realistic view of how their services are viewed by consumers.

TABLE 3. Consumer satisfaction/dissatisfaction as perceived by auto repair providers for 10 surveyed services.

Service Category	Satisfied		Dissatisfied		
	Total %	Rank	Total %	Rank	N
Auto Repair	68.4	8	31.5	3	203
Barber/Beautician	96.7	1	3.2	10	186
Dentist	92.0	2	8.0	9	187
Dry Cleaner	91.5	3	8.5	8	176
House Painter	78.8	4	21.2	7	170
Lawyer	50.6	10	49.4	1	176
Pest Control	76.3	6	23.7	5	173
Physician	77.5	5	22.5	6	183
Plumber	70.9	7	29.1	4	172
Real Estate	59.0	9	41.0	2	178

TABLE 4. Satisfaction ratings of 3 respondent groups for 10 services.

Service Category	Sacramento Area Auto Repair Providers Perception of Consumer Satisfaction[a]	Sacramento Area Residents[b]	California General Population[c]
Auto Repair	68.4	65.6	74.9
Barber/Beautician	96.7	92.8	92.3
Dentist	92.0	94.5	89.8
Dry Cleaner[d]	91.5	93.3	-
House Painter[d]	78.8	79.6	-
Lawyer	50.6	77.5	78.7
Pest Control	76.3	73.6	80.5
Physician	77.5	90.5	88.9
Plumber[d]	70.9	81.0	-
Real Estate	59.0	69.3	78.4

[a] Percent "satisfied" and "somewhat satisfied."
[b] Schutz and Casey, 1982.
[c] Schutz, 1979.
[d] Service not included in the 1979 study.

Service Quality

Table 5 presents rating results assessing the quality of the ten services studied and shows that, in general, auto repair service providers generally are satisfied with the quality of services available in the marketplace. Fifty-three percent believe that auto repair service providers provide average quality service and, 33.3 percent in the "high" to "very high" category (Table 5). Sixty-three percent rated the quality of service provided by dentists as "high" to "very high." Physicians and barbers/beauticians received 46.7 and 46.0 percent, respectively in the "high" to "very high" category. Lawyers and house painters ratings were 19.3 and 18.2 percent, respectively in the "high" to " very high" category.

TABLE 5. Quality ratings of 10 services by auto repair providers.

Service Category	High %	Very High %	Average %	Poor %	Very Poor %	N[a]
Auto repair	10.4	22.9	52.7	10.4	3.5	201
Barber/ Beautician	6.5	39.5	52.4	1.1	.5	185
Dentist	15.1	48.1	31.9	4.9	0.0	185
Dry Cleaner	6.3	25.7	60.6	5.7	1.7	175
House Painter	4.1	14.1	71.2	7.6	2.9	170
Lawyer	4.0	15.3	44.9	21.6	14.2	176
Pest Control	5.3	20.0	61.8	7.6	5.3	170
Physician	15.0	31.7	42.2	6.1	5.0	180
Plumber	6.5	21.8	59.4	10.0	2.4	170
Real Estate	4.0	19.3	47.2	18.8	10.8	176

Scale: 1 = Very Poor through 5 = Very High
[a]Totals may differ due to missing values.

Spearman rank order correlation (rho) was performed to determine whether there is a relationship between the overall quality of services and perceived consumer satisfaction for 10 types of service providers including auto repair. Results show that there is a very strong positive relationship (rho = +.87) between overall quality of service as perceived by auto repair providers and perceived consumer satisfaction as reported by auto service providers. This is a logical result assuming that the providers believe that overall quality of service results in consumer satisfaction with that service.

Thirty-two percent of the auto repair service providers perceived consumers are dissatisfied with auto repair service providers, and 53 percent felt that the quality of service they were providing was "average." Therefore, these results appear to indicate that consumers are perceived as being somewhat dissatisfied with "average" service provided by automotive repair technicians.

Selection Criteria

Mean importance ratings on a five point scale of the 12 criteria for selecting an auto repair service provider range from 3.0 to 4.7, for auto repair providers and perceived consumer ratings range from 3.1 to 4.7 (Table 6). The majority of the respondents (84 percent) rated reputation/recommendation as "very important" when selecting an auto repair service provider, and 79 percent said consumers felt likewise, which is in agreement with actual consumer judgments from an earlier study (78.5 percent Schutz and Casey 1982). Seventy-seven percent of respondents indicated that a consumer's previous experience with a provider was "very important", and 74 percent said consumers also felt the same way; however such importance is considerably higher than consumer ratings (55.2 percent). Friendliness was rated "very important" by 72 percent of the auto repair providers and ranked third for importance among the 12 criteria by both providers and as perceived by consumers. According to the earlier consumer study, 55 percent of Sacramento consumers felt that friendly service was the most important criteria for selecting an auto repair service provider. Thus auto repair providers are overestimating the importance of "friendliness" in selecting auto services. Credit availability was the least important criterion to auto repair technicians in the selection of an auto repair service provider; only 14.9 percent of the respondents indicating "very important." On the other hand, the auto repair providers perceived and actual consumer ratings of this criterion were considerably higher with 27.7 and 31.1 percent, respectively indicating "very important."

Price was rated "very important" by 32.3 percent of the auto repair providers. Perceived consumer ratings for this criterion were somewhat higher at 53.9 percent. It is obvious that auto repair providers realize that price is certainly viewed in a different manner from the consumer perspective. This finding is confirmed by Schutz and Casey (1982) with 55.9 percent of the respondents rating price as "very important." Auto repair providers overestimate the importance of "location" and "consumers previous experience with provider" and underestimate the importance of "qualification/training" and "office/equipment."

Consumer and Auto Repair Service Provider Attitudes

Auto repair providers were asked a series of attitudinal questions about the relationship between consumers and auto repair service providers. Forty-nine percent of the respondents "agree" that there is too little information available for consumers to make a good choice of an auto repair service provider. A preponderance of respondents feel that there is great variability of competence among auto repair service providers (90.3 percent "agree"). Seventy-three percent "agree" that consumers have difficulty recognizing the type of repair service that they need. Over half (73.9 percent) "agree" that consumers seem to be at ease in complaining to them when dissatisfied with the auto repairs and services provided, while only 16.4 percent "disagree."

Table 6. Mean importances of 12 selection critera reported by Sacramento consumers, auto repair providers and as perceived for consumers by auto repair providers. Percentage of respondent groups indicating that the criteria is "very important."

Criteria	Sacramento[a,b] Consumer Very Important %	$\bar{X}$	N[c]	Auto Repair[b] Provider Very Important %	$\bar{X}$	N[c]	Perceived[b] Consumer Very Important %	$\bar{X}$	N[c]
Location	24.8	3.3	359	41.2	4.0	199	42.4	4.1	191
Range of Service	55.5	4.1	353	30.5	3.8	197	33.2	3.9	190
Ease of Obtaining Appointment	51.4	4.2	356	44.2	4.1	197	53.1	4.3	192
Promptness	58.7	4.3	351	61.4	4.4	197	63.9	4.4	191
Office/Equipment	28.3	2.9	339	15.0	3.2	193	13.0	3.1	184
Friendly	55.1	4.0	356	71.9	4.6	199	68.4	4.5	193
Reputation/ Recommendation	78.5	4.6	368	83.9	4.7	199	78.6	4.7	192
Price	55.9	3.9	358	32.3	4.0	198	53.9	4.4	193
Consumer's Previous Experience with Provider	55.2	4.1	346	77.3	4.7	198	74.3	4.6	191
Qualifications/ Training	73.8	4.7	359	64.1	4.5	198	46.4	4.1	192
Credit	31.1	2.8	341	14.9	3.0	194	27.7	3.5	188
Complaint Handling	55.9	3.8	340	59.2	4.3	196	56.5	4.3	191

[a] Schutz and Casey, 1982.
[b] Scale: 1 = Very Unimportant through 5 = Very Important
[c] Totals may differ due to missing values.

IMPLICATIONS

It is apparent from our results that auto service providers have a realistic view of their quality and consumer satisfaction with their services with a perception of about 30 percent of consumers dissatisfied with the service. There is clearly some room for improvement. However, it will not be easy to accomplish considering factors of cost, technician training, quality control problems of the manufacturers, and the vast uncertainty of driver behavior.

Examination of the results on criteria of selection importance indicate several implications. First, the fact that the auto repair provider considers location more important than the consumer can be interpreted to mean that the consumer is more willing than providers perceive to travel away from their local area in order to obtain quality service. Providers could consider trying to reach individuals in neighboring areas with a message emphasizing those criteria that are important to consumers, such as recommendations from satisfied customers. Second, consumers are more influenced by "qualifications" than the auto providers believe, even though they think it is important themselves. This should encourage providers to display evidence of qualifications conspicuously and perhaps give customers a chance to talk to repair people to help build a competency image. Third, consumers seem to be more impressed with the "office/equipment" (although at a relatively low level) than is the opinion of the auto repair provider. This might give an opportunity to improve satisfaction by more closely monitoring office-customer interactions and by allowing them to enter the shop to see what equipment is actually available. Fourth, and related to the last implication, is the fact that "range of service" is considered more important to customers than is apparent to auto repair providers. Advertising the type and range of services offered and/or adding to the services provided might be a way of increasing the likelihood that the consumer would select that provider. Fifth, it appears that although being friendly is desirable, it is less important to the consumer than auto repair providers believe. Perhaps consumers consider the auto service provider more like a doctor in that they want confidence and quality, not just friendliness. Finally, the fact that previous experience with the provider is less important to the consumer than the provider may lead to more tolerance by the consumer of an occasional unsatisfactory experience.

REFERENCES

Brown, D. (1985), "Looking for Mr. Good Wrench," Working Woman (April), 158-160.

Bureau of Automotive Repair (1988), California Consumer's Guide to Auto Repair. Sacramento, CA: State Department of Consumer Affairs.

Dillman, Don A. (1978), Mail and Telephone Surveys: The Total Design Method, New York, NY: John Wiley and Sons.

Hill, Donna (1986), "Satisfaction and Consumer Services," Advances in Consumer Research, 13, 311-315.

Leslie, Larry L. (1972), "Are high response rates essential to valid surveys?", Social Science Research, 1, 323-334.

Moskal, Brian S. (1985), "Fountains of Employment: A look at the fastest-growing service industries," Industry Week, (June 10), 57-60.

Nie, Norman H. et al. (1975), Statistical Package for the Social Sciences, New York, NY: McGraw Hill Company.

Quelch, John A. and Stephen B. Ash (1981), "Consumer Satisfaction with Professional Services," in Marketing of Services, J. H. Donnelly and W. R. George, eds., Proceedings of the American Marketing Association.

Schutz, Howard G., Diaz-Knauf, Katherine V. and Debra S. Judge (1987), "Lawyers' Perceptions of Consumers' Attitudes: Satisfaction, Quality, and Selection Criteria," The Journal of the Legal Profession, 12, 87-102.

Schutz, Howard G. and Debra S. Judge (1986), "Consumer Satisfaction with Physicians," Proceedings, Advances in Health Care Research Conference, American Association for Advances in Health Care Research, 49-52.

______________________________. (1983), "Selected Evaluative Criteria Importance in the Choice of Service Providers," Proceedings of the Division of Consumer Psychology, Division 23, 1983 Annual Convention of the American Psychological Association, 111-114.

Schutz, Howard G. and Marianne Casey (1982), "Consumer Satisfaction with Occupational Services: Quality, Frequency, Attitudes, and Information Sources," Proceedings, Consumer Satisfaction, Dissatisfaction and Complaining Behavior Conference, 81-86.

Schutz, Howard G. (1979), California Consumers' Satisfaction with Goods and Services: Problems, Actions and Attitudes, (A Report to the Director of Consumer Affairs), University of California, Davis, CA.

Schutz, Howard G. (1979), "A California Study of Consumer Satisfaction, Problem Perception and Complaint Action. Proceedings, American Council on Consumer Interests 25th Annual Conference, 54-59.

Service Industries: Growth Field of '80's" (1980), U.S. News and World Report, (March 17), 80-84.

SPSSX User's Guide, 3rd Edition (1988), Chicago, IL: SPSS Inc.

U. S. Bureau of Labor Statistics (1987), Monthly Labor Review, (September), Washington, D.C.: U. S. Government Printing Office.

U.S. Bureau of the Census (1989), Statistical Abstract of the United States: 1989 (109th edition). Washington, DC: U. S. Government Printing Office.

U. S. Department of Transportation (1981), Assessment of the Automotive Inspection, Maintenance, and Repair Industry. Springfield, VA: National Technical Information Service.

IS THERE A REGIONAL EFFECT IN THE DIFFUSION OF CONSUMER ADVOCACY OFFICES BEFORE STATE REGULATORY COMMISSIONS?

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ABSTRACT

Commentators on the introduction of pro-consumer measures have drawn attention to what appears to be a regional component to the diffusion of the measures. Should such an effect be pervasive and regular, the ability of consumer professionals to plan strategy for the development of pro-consumer measures would be considerably enhanced. In this paper, the diffusion of one particular pro-consumer measure, the consumer advocacy office before utility regulatory authorities, is examined, using a version of a model prescribed by previous researchers. No discernible regional pattern is observed in the consumer advocacy case.

Studies of the relationship between socio-demographic characteristics and public policy formation have suggested that a regional effect may be at work in the adoption of new measures in the consumer interest. It has been claimed that wealthy, highly industrialized states adopt pro-consumer legislation before less economically developed areas (Hofferbert 1966; Walker 1969; Gray 1973; Sigelman and Smith 1980). Geographically, the Northeast and Far West allegedly adopt progressive consumer legislation before the Southern and Central parts of the country (Walker 1969; Ford 1977).

The likely existence of a regional diffusion process raises many important questions for consumer professionals. not least of which is, exactly how pervasive and regular is the process? Specifically, do all states in the respective regions of the U.S. adopt measures at about the same time? And is the same regional effect present for all innovatory consumer measures? Pervasiveness and regularity in the process would enable consumer advocates to develop improved strategies for introducing measures, and to track their diffusion more efficiently.

It is the purpose of this paper to examine whether the regional effect was evident in the adoption of one particular pro-consumer measure, and to test how pervasive was the effect at the state level. The measure concerned is consumer proxy advocacy offices in the state utility regulation process. Previous work by Gormley (1981, 1982, 1983, 1986) suggests that this is a potentially fruitful area of research.

Rapidly increasing utility rates in the latter half of the 1970's lead to a renewed public awareness of the utility regulation process (Barvick 1977; Phillips 1986). Already-existing citizens' groups increased their activities and new groups formed to help galvanize the consumer interest in rate hearings (Gormley 1983, 1986). In addition to these unofficial public representation groups, some state legislatures responded to public pressures by creating formal proxy advocacy offices. The offices were to represent the consumer interest before state utility regulatory commissions (NASUCA 1979).

As of 1989, consumer proxy advocacy offices were present in 38 of 51 states (including the District of Columbia)[3]. The objectives of this paper will be to look at which states have adopted offices, to see how active the various offices are, and to test whether the diffusion of advocacy offices is consistent with the factors purportedly observed in the adoption of similar kinds of consumer legislation.

The importance of public representation within the structure of a participatory democracy has been recognized by political scientists and consumer researchers (Mazamian and Sabatier 1980; Berry 1981). Proxy advocacy offices are a potentially effective means of enhancing public representation (Schraub 1976; Barvick 1977; NASUCA 1979; Gormley 1981a,b,c, 1983, 1986). Any research which sheds light on the process of adoption of proxy advocacy efforts is therefore of interest.

METHODS

Following the past studies mentioned above, the general form of the relationship hypothesized to exist between the adoption of consumer proxy advocacy by state and its determining factors is:

(1) $ADi - f(ECi, SPOLi, ENi)$

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[3] The 13 states without advocacy offices were: Alaska, California, Idaho, Kansas, Montana, Nebraska, North Dakota, Oklahoma, Oregon, Rhode Island, South Dakota, Tennessee, Wyoming.

where AD represents alternatively the existence of and degree of proxy advocacy, EC represents economic variables, SPOL represents socio-political variables, EN represents confounding energy-specific variables, and i stands for a specific state of the U.S.

As mentioned above, in addition to whether or not a state has established an advocacy office, this study is interested in the degree of adoption in terms of the per capita budget of the office and the number of cases in which it is involved. Table 1 specifies the form of the three dependent variables (OFFICE, PCBUDGET, ACTIVITY) used in the study.

Economic variables which are said to be related in some way to the adoption of pro-consumer measures are income and the extent of industrial activity in the state (Hofferbert 1966; Walker 1969; Ford 1977; Mazmanian and Sabatier 1980). The higher the state income and the more active its industry, the more likely it is that the state will adopt pro-consumer legislation. Table 1 shows the independent variables (PCINC, PCVA) used to operationalize the hypothesized relationships in this study.

The economic variables are generally agreed to be the important ones in any regional effect which might be present. It has been suggested, however, that other socio-political variables may intervene in the relationship. Prominent among these are education and the past record of political activism in the state. The average level of education in the state is expected to be positively related to adoption of consumer measures (Walker 1969; Ford 1977). Pro-consumer measures are expected to be adopted more readily by states which have a past history of being relatively active politically (Sharkansky 1969; Gray 1973; Johnson 1976). Table 1 shows the independent variables (ED, PA, AGEOFF) which were included as socio-political variables.

A combination political-economic variable which is of interest is the presence of people in the state of low socio-economic status. Socio-political activity requires resource expenditure, and a state with a large economically disadvantaged population may have relatively more difficulty in raising those resources. Two independent variables were developed to cover income distribution (SD1 and SD2 in Table 1).

Gormley (1981b; 1983) reported that there is a correlation between level of involvement of consumer groups in utility hearings and the volatility of the energy market. Accordingly, variables to represent the change in energy costs and consumption (PCEND, PCENJ, PCBTU: see Table 1) were included as independent variables for this study.

Ordinary least squares analysis was used to estimate the relationship between the three dependent variables and various combinations of the independent variables. The power of the model to predict whether or not a state would establish a consumer proxy advocacy office was also tested by discriminant analysis. Finally, two analyses of variance were performed, one with states grouped by geographical region and the other with division made by income quartile.

Values of the dependent variables were taken from the National Association of Utility Consumer Advocates' Directory. Values for the independent variables were largely gathered from The Statistical Abstract of the United States and from The Survey of Current Business. Where current year data were specified, the year for the study was 1986, the most recent year for which a complete data set could be obtained. All economic data were prepared on a per capita basis.

RESULTS

Results of the regression analysis are shown in Table 2. Three versions of the regression equations represented the general form of the relationship described above. The three equations were selected with the help of a matrix of Pearson correlation coefficients for the variables outlined in Table 1. In order to minimize potential collinearity problems, education (ED) and per capita income (PCINC) were used in different versions of the equation, and the income distributional variables (SD1 and SD2) were dropped respectively from one equation containing income and the equation containing education. The energy variables (PCEND, PCENT, PCBTU) were all mutually highly correlated, so were used consecutively in the three equations.

Overall, the fit of the equations ranged from poor for the three versions with the per capita budget of the office (PCBUDGET) as the dependent variable, to reasonable for those with the number of cases in which the office makes an appearance (ACTIVITY) as the dependent variable. The evidence of the individual regression equations, however, is that there is little by way of a systematic relationship among the variables across the states. Few coefficients are significantly different to zero at even the .10 level, and there are numerous cases of alternating signs on variables.

What evidence there is of systematic relationships between variables points to the degree of industrial activity (PCVA) being positively related to adoption of advocacy office. There was an observed significant inverse relationship between energy use per capita (PCBTU) and two of the three dependent variables. Finally, there was an indication from one equation only that the racial composition of the state (SD2) may be related to adoption of an advocacy role: the larger the non-white proportion of the state's population, the more likely it was to adopt an advocacy office.

In subsequent runs of the equations, not shown here, two states (Indiana and Vermont) were eliminated because of outlier values on two of the dependent variables, and non-linear (log and log-log) versions of the equations were tested. In all cases, improvements over the equations shown in Table 2 were marginal at best.

As a further test of the presence of a systematic relationship between the variables across states, a discriminant function was developed for the equations with the dichotomous OFFICE variable as the dependent variable. The list of independent variables was as in the first equation of Table 2, but with all three energy variables. Prior probabilities (0=.24, 1=.76) were based on the actual frequency of advocacy offices in the year of the study. The overall rate of correct prediction was fairly high, at 87 percent, and much better for states with offices (94% correct) than for those without (64%).

Finally, analysis of variance was performed in order to test for two broader regional patterns in the adoption of consumer proxy advocacy offices. First, a one-way ANOVA was carried out for means of each of the dependent variables and using Ford's (1977) four-region grouping of states. Second, because of the firm conviction in the literature that state income per capita would be a factor in the adoption of pro-consumer legislation, states were grouped by income quartiles, and a one-way analysis of variance performed between income and the means of the three dependent variables. Results, shown in Table 3, do not show any indication of a systematic regional effect in either of the two analyses.

CONCLUDING COMMENTS

The aim of this paper was to examine whether a regional effect was at work in the diffusion of consumer proxy advocacy offices before state utility regulatory commissions. Regression analysis of state-level data did show some evidence of a systematic relationship, but it was not strong statistically. An associated discriminant model showed some power of prediction of adoption of offices by state. Scrutinization of the regression coefficients showed that the regional effect that was noted was imparted largely by the degree of industrial activity in the states and by state energy consumption levels.

Analysis of variance over aggregations of states failed to reveal any broader pattern of regional effects at work, whether states were grouped on a geographical basis or by income levels. The lack of impact of income on adoption patterns was also apparent in the regression analyses.

The absence of a strong regional effect in the establishment of advocacy offices implies that regional effects in the diffusion of pro-consumer measures are not as pervasive as previous work in the area might have lead us to believe. The expectation that certain "progressive"" regions will lead and others will follow in a set order is perhaps too simplistic a picture of the real world.

Throughout the paper, the concern was with the pervasiveness of the regional phenomenon rather than its existence. Nevertheless the failure of the analysis to show clear evidence of the existence of the effect observed in previous studies is worthy of comment. There are at least two interpretations that can be drawn from the findings. It is possible that the consumer advocacy office is in some sense a different kind of situation than the measures studied by previous writers, and subject to its own dynamic. Or, it is possible that times are changing, and what is being observed here is an end to the older patterns of adoption of pro-consumer legislation. Whatever the explanation, further study of diffusion of pro-consumer legislation would seem to be desirable.

REFERENCES

Barvick, William M. (1977). Public Advocacy Before the Missouri Public Service Commission. *University of Missouri-Kansas City Law Review* 46(2): 181-200.

Berry, Jeffrey M. (1981). Beyond Citizen Participation: Effective Advocacy Before Administrative Agencies. *Journal of Applied Behavioral Science* 17(4): 463-477.

Ford, Gary (1977). State Characteristics Affecting the Passage of Consumer Legislation. *Journal of Consumer Affairs*, Summer: 177-182.

Gormley, William Jr. (1981a). Statewide Remedies for Public Underrepresentation in Regulatory Proceedings. *Public Administration Review*, July-August: 454-462.

- (1981b). Nonelectoral Participation as a Response to Issue-Specific Conditions: The Case of Public Utility Regulation. *Social Science Quarterly* 62(3): 527-539.

- (1981c). Public Advocacy in Public Utility Commission Proceedings. *Journal of Applied Behavioral Science* 17(4): 446-462.

- (1982). Alternative Models of the Regulatory Process: Public Utility Regulation in the States. *Western Political Quarterly* 35(September): 297-317.

- (1983) *The Politics of Public Utility Regulation*. University of Pittsburgh Press, Pittsburgh PA.

- (1986). The Representation Revolution - Reforming State Regulation Through Public Representation. *Administration and Society* 18(2): 179-196.

Gray, Virginia (1973) Innovation in the States: A Diffusion Study. *American Political Science Review* 67: 1174-1185.

Hofferbert, Richard (1966). The Relation Between Public Policy and Some Structural and Environmental Variables in the American States. *American Political Science Review*: 73-82.

Johnson, Charles (1976). Political Culture in American States: Elazar's Formulation Examined. *American Journal of Political Science* 20(3): 491-509.

Mazmanian, Daniel and Paul Sabatier (1980). A Multivariate Model of Public Policy-Making. *American Journal of Political Science* 24(3): 439-468.

NASUCA (National Association of State Utility Consumer Advocates) (1979). NASUCA Constitution.

Phillips, Charles Jr. (1986). The Changing Structure of the Public Utility Sector. *Public Utilities Fortnightly* January 9th: 13-21.

Schraub, J. Jonathan (1976). The Office of Public Counsel: Institutionalizing Public Interest Representation in State Government Georgetown Law Journal 64: 895-923.

Sharkansky, Ira (1969). The Utility of Elazar's Political Culture. *Polity* 2(Fall): 66-83.

Sigelman, Lee and Roland Smith (1980). Consumer Legislation in the American States: An Attempt at Explanation. *Social Science Quarterly* 61(1): 59-70.

Walker, Jack (1969). The Diffusiion of Innovations Among the American States. *American Political Science Review* 63: 880-899.

TABLE 1
Variables used in the study of the diffusion of consumer advocacy offices.

Title	Description & Measurement
a. Dependent Variables	
OFFICE	Presence of an advocacy office in the state: 0 = no office in state; 1 = office in state.
PCBUDGET	Budget of the office in $ per capita.
ACTIVITY	Case load per office: the number of regulator cases in which the office participated.
b. Independent Variables	
PCINC	State disposable income in $ per capita.
PCVA	Value added in manufacturing of the state in $ per capita.
ED	Education level of state: median years of education completed.
PA	Political activity: percent voter turnout in the gubernatorial election closest to the year the office was established (1976 for no office states).
SD1	Income distribution: Percentage of state population with less than $20,000 of income.
SD2	Income distribution: percentage of population that is white.
AGEOFF	How long an office has been in existence (PCBUDGET and ACTIVITY equations only): 1987 minus the year the office was set up.
PCEND	Change in energy expenditure during the "energy crisis" years 1973-81: $ per capita.
PCENT	Change in percentage of state personal income spent on energy 1973-81.
PCBTU	Residential energy used in 1985: trillions of Btu's per capita.

TABLE 2
Regression analysis of diffusion of consumer advocacy offices by states.

	OFFICE			PCBUDGET			ACTIVITY		
	I	II	III	I	II	III	I	II	III
ED			-.472 (.503)			.457 (.563)			47.1 (129)
PCINC	-.015 (.047)	-.020 (.045)		.043 (.052)	-.041 (.035)		5.16 (11.8)	-7.30 (8.0)	
PCVA	.078 (.005)	.083* (.045)	.077* (.044)	-.042 (.052)	-.036 (.050)	.007 (.050)	9.13 (11.8)	9.71 (11.4)	12.4 (11.4)
SD1	-.005 (.01‾)		-.007 (.013)	.017 (.019)		.016 (.014)	4.68 (4.22)		3.96 (3.23)
SD2	-.010 (.006)	-.012* (.006)		-.006 (.007)	-.006 (.007)		-7.31 (1.62)	-.539 (1.62)	
PA	.004 (.659)	.110 (.614)	.379 (.624)	1.18 (.732)	.993 (.682)	.989 (.698)	241 (166)	184 (156)	218 (160)
AGEOFF				-.003 (.008)	-.004 (.007)	.0003 (.008)	4.67* (1.72)	4.50* (1.71)	4.95* (1.78)
PCEND	-.0002 (.0002)			-.0001 (.0002)			.004 (.040)		
PCENT		-.034 (.023)			-.039 (.025)			-4.66 (5.74)	
PCBTU			-14.2* (5.38)			-11.3* (6.02)			-1306 (1382)
CONST	2.23	1.98	4.78	-1.04	1.01	.443	-420	88.8	758
F	1.56	1.81	2.39	.63	.71	1.08	2.17	2.40	2.76
R-Squ	.22	.21	.26	.10	.10	.14	.28	.26	.29

* = significant at at least the .10 level.

TABLE 3
Analysis of variance of adoption of consumer advocacy offices by region and by income.

	Means		
	OFFICE	PCBUDGET	ACTIVITY
a. Region			
NE	.889	.514	115.22
WEST	.538	.202	26.38
CENTRAL	.667	.143	78.75
SOUTH	.882	.251	56.41
F	2.08	1.13	1.22
p>F	.116	.348	.311
R-Square	.12	.07	.07
b. Income			
1st Quartile	.750	.129	42
2nd Quartile	.538	.363	104
3rd Quartile	.847	.222	47
4th Quartile	.847	.304	63
F	1.39	.58	.85
p>F	.258	.633	.474
R-Square	.08	.04	.05

INTERNATIONAL CONSUMERISM AND THE CODE OF CONDUCT

Esther Peterson, United Nations Representative to IOCU

It is good to be with you again. Last year I had the honor of presenting the Colston Warne Lecture. It is appropriate that we honor him, for it is just 30 years since Colston, from the United States, and others from four other countries got together and formed the International Organization of Consumers Unions (IOCU). And now, from a group of five countries, it has grown to around 70 countries. IOCU is active on every continent and work from Benin in French Africa to Bejing in China is going on. IOCU can take pride in what we have done over these years to further consumer interests. Colston Warne would be proud.

One of IOCUs biggest contributions has been in the form of giving information and in our grass roots involvement in issues from breast feeding, to the use of nonessential and dangerous drugs, use of pesticides, pushing smoking - so many issues! We have helped provide a climate of opinion for change through representation at international bodies and conferences and IOCU's valuable and timely publications. I believe equally important are the tools that we are providing through our work at the United Nations. Probably the most important is the Consumer Guidelines passed by the General Assembly in 1985. This document gives developing countries a basis for establishing and promoting consumer protections. The Guidelines are based on the practical experience and effectiveness of laws in our, and other countries. Implementation of the Guidelines is taking place. Model laws are now presented to Latin American countries. A technical training conference was held in Montevideo and others are being held. A new conference will be in Bangkok this Spring where Asian countries will have the opportunity of being instructed on implementing the Guidelines.

Also of great importance is the passage of the Consolidated List of products banned and potentially harmful. IOCU and friends have had to lobby very hard to keep this list alive, up to date and funded. I regret that it is the United States that has voted against the list and funding practically every time it has come up. Recently, thanks to a coalition of NGOs under IOCU leadership, the US position was reversed, after calls, telegrams and messages. It pays to be heard. Evidence shows that the List is being used extensively in developing countries and is looked upon by many leaders as one of the best instruments that they have. It has growing support.

Of course, in addition to these items we work on helping to implement the Brundtland Report for Sustainable Development. We help with all environment issues, pesticide control, and Prior Informed Consent (PIC). Now, biotechnology is high on our list. Women, children, drugs, and population continue to be issues we follow with the help of ACCI Representative Nancy Hawkins. Now we are working to insure that the UN takes consumer concerns into consideration in its deliberation on the 1992 Conference on Environment and Development. 'Green Consumerism' is on the march and we must be part of it. This work in New York is being carried out now by Eileen Nic and a group of able volunteers.

My work now is concentrated on helping to secure passage of the Code of Conduct for Multinational Corporations. IOCU learned early of the need to help regulate the growing power of multinationals and to this end, discussions were held and resolutions were passed that IOCU support the passage of the Code of Conduct. This is my present assignment. My work is concentrated largely in Washington, DC because it is the United States that is reluctant to move ahead and we must work where the 'power structure' is.

I am finding this the most difficult IOCU assignment I have had. We are up against not only powerful international organizations and corporations but their umbrella organizations such as the International Business Council and the International Chamber of Commerce. But most difficult is our own Department of State. It appears to me that our administration continues to have an ear more for the business council and the Heritage Foundation than the voice of consumers. The Heritage Foundation's attitude toward the UN is known; they say: "The UN is not an end in itself. It is merely one means by which the US should advance its policy goals." But they fail to see or understand the UN Charter which makes clear that the United Nations exists to help fulfill the aspirations of all humanity for a better world of peace and justice." Dag Hammarskjold said it so well: "The United Nations reflects both aspiration and a falling short of aspiration, but the constant struggle to close the gap between aspiration and performance now, as always, makes the difference between civilization and chaos." We are suffering because of the UN bashing in our Congress. Why the reluctance?

There appears to be fear that the Code would be a business bashing instrument, that it would interfere with the neat profit making ability that many multinationals now enjoy. Also the powerful voice of multinational corporations in international policy making might be disturbed.

But seriously, in my estimation, we are up against something even more difficult that is the frozen positions, the antiquated thinking, and unwillingness to accept change by those opposing the completion of the Code (those who don't want the walls to tumble down). Their present positions are comfortable, they are powerful, and they do not like to be disturbed. They defend their comfortable position by circling their wagons.

I say this as Esther, representative of IOCU at the UN. Years of experience, and being my age gives me the freedom, which I accept, to say and speak as I feel, to feel outrage which, at times, I do. President Carter, speaking to a group of foreign students urged Third World students to report any recklessness in their countries by American firms. He even has in mind a sample letter to send major newspapers. "It should go like this," he says, 'Dear Sir, I am a student from Zambia, and when I went home, I saw barrels of toxic chemicals stacked on the side of the road. Why does your country allow companies to send poisons outlawed in America to kill people in mine?' That kind of letter will cause outrage and change."

But, you all know the Code of Conduct. It would spell out guidelines for both transnational corporations in their dealing with countries and for host countries in their dealings with transnational corporations. It is balanced and works both ways. It's a voluntary set of norms which would benefit the public in every country by setting up standards of decency for fair competition, fair market prices and greater honesty in the operation of business across national boundaries. This is promising material for those of us who watch current happenings with genuine concern. The dumping of hazardous waste, destruction of natural resources, intrusions in national sovereignty and cultural patterns and also the exploitation of citizens in developing countries. At present we have no minimum standards, no inclusive international yard stick for measuring responsible conduct. As Congressman Yatron said in his letter to President Bush urging him to support the Code: "We have no international standards representing good practices and good conscious in the world's marketplace." Standards continue to be needed.

As the world economy is growing, as the new democracies are emerging throughout the world, standards for good corporate and nation-state behavior are definitely called for. Especially now in the Eastern European countries as they move into a free market economy the Code could prove especially valuable. Among the guidelines established by the Code of great importance are observance of consumer and environmental protections, observance of human rights, observance of social and cultural values, abstention from corrupt practices and fair and equitable treatment in countries in which the transnational corporation operates.

So why am I so concerned? The Code of Conduct has been under consideration for over 10 years. It has evolved, it has changed and it has moved from what was originally an instrument to control the negative, questionable activities of multinational corporations in developing countries to one of potentially, constructive assistance. We in the US initiated the idea of a Code, after learning of abuses by some of our corporations. Several widely publicized instances of multinational corporations misconduct, mainly revelations of overseas bribery of government officials and the ITT incident in Chili, led to the multinational negotiations on the Code of Conduct. So, therefore, the negotiations began under a cloud of criticism directed at controlling company abuses. What began as an offensive action on the part of developing countries based on the assumption that the role of the transnationals is basically negative, was gradually replaced by the recognition that the role of multinationals is generally positive and necessary and that the well-publicized abuses have become the exceptions rather than the rules. Unfortunately abuses continue. The need for the Code is still great.

That period of history, of abusive practices, is past. Unfortunately the ghosts of that period still haunt us. So now we are in a position of trying to get a willingness mainly on the part of the US to exercise the political will needed to complete the work and assure its passage at this session of the UN General Assembly, establishing a Code of Conduct that strengthens the positive actions of transnational corporations and reduces the negative.

Although 80% has been agreed upon the Code appears to remain deadlocked on 3 or 4 items. One concerning compensation standards for expropriation. This issue is a dead one. Over the last 3 years there has been one case; before that there were many. This is a ghost argument. Another is the problem of formulating international law standards. This issue has been met with a position that international experts have put forward, a position that is widely agreed upon which leaves negotiation possible when genuine conflicts occur. As Mr. Rhodes, Vice-Chairman of Booz, Allen and Hamilton, Inc., "this can all be resolved. We must not be a captive of old rhetoric." There is also the issue of voluntary versus mandatory which our State Department continues to raise. This too has been agreed upon and that The Code is to be voluntary. Guidelines for the resolution of disputes have also been worked out. And of course there is old dusty echoes of a new economic order and this too is water over the dam. Times have changed.

So my friends, what can you do? We are on the edge of a great break-through and we can do it with help. Write letters to President Bush with copies to Secretary of State James Baker, Ambassador to the UN Thomas Pickering and Assistant Secretary of State for International Organizations John R. Bolton. And when you go back, if the press asks you what transpired, tell them about this. Get students to write about it, see that your library carries information about this, write your senators and congressman.

I'm afraid that if the Code is not passed at this session it may be dead. Supporters are getting weary. All that is needed is the political will to climb out of the old positions and be part of the new stream of internationalism. As someone said to me the other day, "we must reject the 'flat earthers.'"

A few days ago we celebrated in many parts of the world Consumer Rights Day. The anniversary of President John F. Kennedy's historic consumer rights message. One of his most important points was "the right to be heard." Friends -- speak up on the issues. Use this important right and help move us all toward the better world we seek.

LABOR SUPPLY AND THE AFDC CHILD CARE SUBSIDY: AN ECONOMIC ANALYSIS

Jutta M. Joesch[1]

INTRODUCTION

Since the 1960s the dominant approach for reducing poverty and welfare dependency among female headed families has been to promote employment among poor mothers. Despite various efforts, only a small number of women on welfare hold jobs. Explanations for the low labor force participation rates of single mothers include inadequate education, little work experience, health problems, welfare regulations with inappropriate incentive structures and prevalence of poverty in a welfare recipient's neighborhood. One aspect that has received relatively little consideration is the role child care plays in a welfare recipient's labor supply decision. Assuming that parents want their children cared for while at work, a lack of affordable, let alone quality, child care may deter some women with young children from participating in the labor force and, thus, contribute to increased welfare dependency.

This study analyzes the extent to which changes in the price of child care influence the labor supply of single recipients of Aid to Families with Dependent Children (AFDC). A model guided by a static, microeconomic framework is developed which addresses the complex structure of AFDC child care regulations. Multiple statistical techniques with varying abilities to capture the intricacies of the theoretical model are used to estimate the empirical labor supply model.

EVIDENCE FROM EXISTING STUDIES

Evidence from attitudinal studies indicates that a lack of adequate child care reduces mothers' labor force participation and/or the number of hours worked in the short run, and is likely to have consequences for women's professional success in the long-run. The percentage of mothers reporting to be constrained in their work efforts by child care issues ranges from under two to 50% (Dickinson, 1975; Ditmore & Prosser, 1973; Lueck, Orr, O'Connell, 1983; Oppenheim, 1987; Presser & Baldwin, 1980). Perceived child care constraints were most prevalent among single and black mothers with young children, low education and low family incomes.

A major drawback of attitudinal research is that it does not necessarily reflect people's behavior. Evidence from research based on behavioral observations is not conclusive. While cost or availability of child care seemed to influence work behavior in some studies, others did not find this to be the case (Blau & Robins, 1988; Ditmore & Prosser, 1973; Floge, 1985; Heckman, 1974; Kurz, Robins, Spiegelman, 1975; Morgan, 1981; Robins & Spiegelman, 1978; Stolzenberg & Waite, 1981; Yaeger, 1977). None of these studies focuses on the role of child care in the labor force behavior of welfare or even low-income mothers.

THE THEORETICAL MODEL

The labor supply equation for AFDC recipients is derived from the economic framework of utility maximization subject to a time and budget constraint. If the decisions to work and find child care are simultaneous ones, utility is a function of leisure, child care and the composite commodity all-other-goods.

Time and Budget Constraints for AFDC Recipients

For a family participating in the AFDC program the budget constraint is more complex than the ones typically encountered in economic models. Whenever family income falls below a certain level, it is supplemented by the state. AFDC benefits are determined by subtracting a recipient's net earnings from a 'need standard'. Net earnings are defined as earned income minus the following income disregards:

(a) $75 (or less for part-time) for work expenses,
(b) the actual cost up to $160 (or less for part-time) for care of each child or incapacitated adult,
(c) $30,
(d) one third of any remainder.

"The 'thirty and one-third' disregard may be applied until used for four consecutive months and must not be repeated until twelve consecutive months have elapsed since AFDC was last received" (U.S. Dept. of Health and Human Services 1984, xiii). In the case of less than full employment, maximum child care deductions are reduced according to state regulations.

These regulations have three implications relevant for this study: an AFDC recipient's wage rate varies with hours worked, and decreases after working for more than four months while on AFDC; the price of child care changes with hours worked, the magnitude of child care expenses, the number of children in child care and the state a welfare recipient lives in. As long as child care expenses are less than or equal to the maximum AFDC child care subsidy, the price of child care to an AFDC recipient is a percentage of the price charged by the caregiver. If child care expenses exceed the maximum subsidy, the effective price of child care is the actual price charged by the supplier.

According to these regulations, income for AFDC recipients who work and are eligible for the thirty and one-third earned income disregard consists of supplementary AFDC income (BEN), nonlabor income (v) plus earned income (wM). If income is spent on the composite good (X) and child care (C), the budget constraint for AFDC recipients can be written as[2]

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$$(1)\qquad p_cC + p_xX = wM + v + BEN$$

Supplementary AFDC income is determined as

$$(2)\qquad BEN = PSTD - f\cdot NETEARN - v$$

where:
f = percentage reduction

Net earnings[3], NETEARN, consist of

$$(3)\ NETEARN = wM - DISR - Min\left[K\cdot MAXCD, p_cC\right] - t\left[wM - DISR - Min[K\cdot MAXCD, p_cC]\right]$$

where:
DISR = \$30 (earned income disregard)
K = no. of children for whom child care is purchased
MAXCD = maximum child care deduction per child
t = 1/3 (earned income disregard)

The combined budget and time constraint (5) is derived by substituting time constraint (4) into equation (1).

$$(4)\qquad T = M + L$$

where:
L = leisure M = hours worked T = total time

This results in

$$(5)\quad PSTD' + t'wT = p_cC - f(1-t)Min\left[K\cdot MAXCD, p_cC\right] + p_xX + t'wL$$

where:
$PSTD' = PSTD + f(1-t)DISR$ $t' = 1 - f(1-t)$

Using child care disregard regulations from Colorado, the budget and time constraint for AFDC recipients receiving the earned income disregard is the piecewise discontinuous function:

$$(6)\quad \begin{aligned}
& t'p_cC + p_xX + t'wL = PSTD' + t'wT && \text{if } 1 \le M < 100 \text{ and } p_cC \le 130\\
& p_cC + p_xX + t'wL = PSTD' + t'wT + f(1-t)130K && \text{if } 1 \le M < 100 \text{ and } p_cC > 130\\
& t'p_cC + p_xX + t'wL = PSTD' + t'wT && \text{if } M \ge 100 \text{ and } p_cC \le 160\\
& p_cC + p_xX + t'wL = PSTD' + t'wT + f(1-t)160K && \text{if } M \ge 100 \text{ and } p_cC > 160
\end{aligned}$$

The combined budget/time constraint consists of several segments which differ in the price of child care and nonlabor income. Since each segment of the constraint is linear, the complete constraint is piecewise-linear. A graphical representation of the constraint is shown in Figure 1. Four areas and three kink lines correspond to the budget constraint in (6).

A Labor Supply Function for AFDC Recipients

In the case of budget constraints with one segment, a labor supply function is derived by maximizing utility subject to the constraints and by solving the resulting system of equations for preferred hours of work. The piecewise-linear nature of the budget constraint for AFDC recipients makes it necessary to repeat the process of utility maximization for every segment of the constraint. The resulting labor supply equation consists of several parts and is a conditional labor supply equation: it describes the labor supply choice conditional on the segment or kink of the budget constraint chosen (Moffitt, 1986c). For AFDC recipients who live in Colorado and receive the earned income and child care disregards, the conditional labor supply function is,

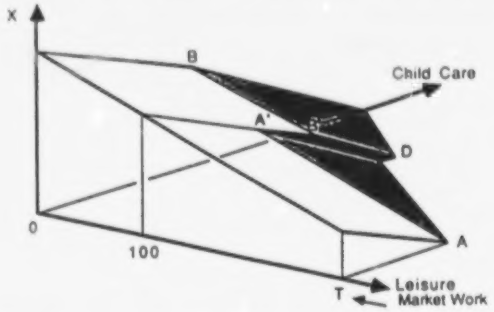

FIGURE 1 The Time and Budget Constraint for AFDC Recipients Receiving the Earned Income and Child Care Disregard

$$\begin{aligned}
& M = m\left[w_1, p_{c1}, p_{x1}, v_1\right] && \text{if } M < 100 \text{ and } p_cC_1 < 130K && \text{area I}\\
& M = m\left[w_2, p_{c2}, p_{x2}, v_2\right] && \text{if } M < 100 \text{ and } p_cC_2 > 130K && \text{area II}\\
& M = m\left[w_3, p_{c3}, p_{x3}, v_3\right] && \text{if } M > 100 \text{ and } p_cC_3 < 160K && \text{area III}\\
& M = m\left[w_4, p_{c4}, p_{x4}, v_4\right] && \text{if } M > 100 \text{ and } p_cC_4 > 160K && \text{area IV}\\
& M = m\left[w_5, p_{x5}, v_5\right] && \text{if } M < 100 \text{ and } p_cC_1 = 130K && \text{kink AA'}\\
& M = m\left[w_6, p_{x6}, v_6\right] && \text{if } M > 100 \text{ and } p_cC_3 = 160K && \text{kink BB'}\\
& M = 100 && \text{if } M = 100 \text{ and } p_cC_4 > 160K && \text{kink BD}
\end{aligned}$$

where: $C_i = c\left[w_i, p_{ci}, p_{xi}, v_i\right]$ for $i = 1,2,3,4$

$p_{ci} = t'p_c$ for $i = 1,3$ $p_{ci} = p_c$ for $i = 2,4$
$p_{xi} = p_x$ for $i = 1,\ldots,6$ $v_i = PSTD'$ for $i = 1,3,5,6$
$v_i = PSTD' + f(1-t)130K$ for $i = 2$
$v_i = PSTD' + f(1-t)160K$ for $i = 4$
$w_i = t'w$ for $i = 1,\ldots,6$

Which segment of the constraint will be chosen depends on the level of utility associated with each location. Preferred hours of work will be in area I if the utility derived from the optimal bundle of goods in area I is greater than the utility from the optimal bundles of goods in areas II-IV and along kink-lines AA', BB' and BD (Moffitt, 1986c).

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[2] A mathematical and graphical representation of the budget and time constraint for working AFDC recipients will be based on Colorado AFDC regulations since data from Colorado are used for the empirical part of this study. In Colorado, the difference between the need standard and net earnings is multiplied by 0.8237. The max. child care deduction is \$130 per child per month if an AFDC recipient works between one and 100 hours/month. The max. child care deduction increases to \$160 per child/month, if monthly labor supply is 100 hours or more.

[3] The possibility that an AFDC recipient earns between \$0 and \$30 per month is ignored in this model, assuming that working AFDC recipients earn more than \$30/month. This assumption was confirmed by the data.

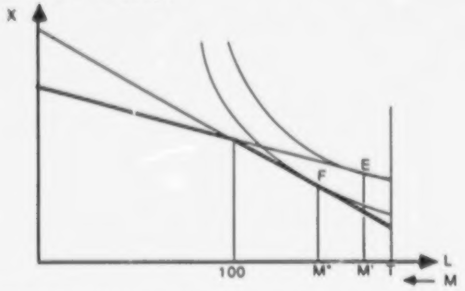

FIGURE 2 Unique Maximum - Convex Budget Set

Hausman (1979) showed that a comparison of utility levels is not necessary as long as the budget set is convex and preferences are strictly quasi-concave. In such a case, there is exactly one unique utility maximum in a feasible range, as illustrated by Figure 2. Although there is a utility maximizing point along segment II of the budget constraint, it is not a possible solution, since it is outside the feasible range of segment II. In addition it was shown that a kink is chosen if all utility maxima occur in the infeasible ranges of the segments adjacent to a kink (Moffitt, 1986c). A simplification of expression (7) is not possible if the budget set is nonconvex. In that case, a comparison of utility levels is necessary to establish the global maximum, since several utility maximizing solutions may be found within feasible ranges of the budget constraint, as illustrated by Fig. 3.

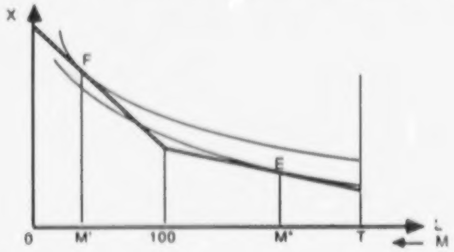

FIGURE 3 Multiple Maxima - Nonconvex Budget Set

According to Figure 1 the budget set for AFDC recipients consists of convex as well as non-convex parts. The budget set is convex with respect to areas I, III and IV and kink lines AA', BB'. Thus, if a utility maximizing point is in either of these segments or kink lines, it is guaranteed to be a unique maximum, in which case a comparison of utility levels is not necessary. Nonconvexity of the budget set is an issue with respect to area II: a utility maximizing point in the feasible range of area II does not preclude a utility maximizing solution in the feasible range of area IV or line BD (Fig.4,5). Both graphs represent a "cut through" areas II and IV of the budget constraint in Fig.1, parallel to the hours axis. The segment from zero to 100 hours of leisure corresponds to area IV, the segment from 100 to T hours of leisure to area II and point D corresponds to kink line BD.

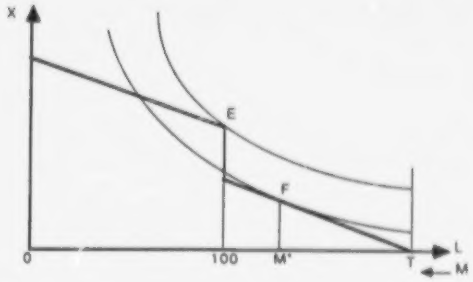

FIGURE 4 Nonconvexity Area II - Kink BD
Multiple Feasible Solutions

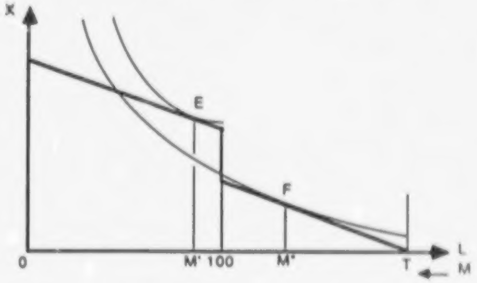

FIGURE 5 Nonconvexity Area II - Area IV
Multiple Feasible Solutions

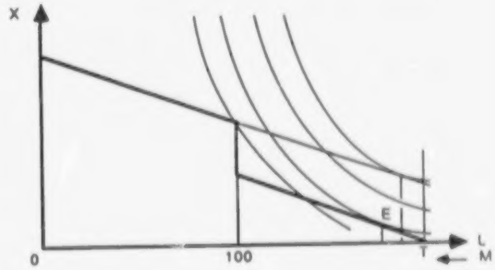

FIGURE 6 Conditions for Segment II to be Chosen

If, however, the utility from a feasible solution in area II is greater than the utility from a solution along kink BD, then the indifference curve corresponding to the solution in area II will intersect area IV in the infeasible range, as will all higher indifference curves (Fig.6); i.e. a comparison of utility levels for solutions in areas II and IV is not necessary. Area II will be chosen as the preferred location if the utility from a maximizing solution in area II is larger than the utility from a point along kink BD. The choice of location can, thus, be simplified as follows:

Choose area I if,

(8) $m\left[w_1, p_{c1}, p_{x1}, v_1\right] < 100$ and $p_c C_1 < 130K$

Choose area II, if,

(9) $V\left[w_2, p_{c2}, p_{x2}, v_2\right] > U\left[M_{BD}, C_{BD}, X_{BD}\right]$

Choose area III, if

$$(10) \quad 100 < m\left[w_3, p_{c3}, p_{x3}, v_3\right] \quad \text{and} \quad p_c C_3 < 160K$$

Choose area IV, if

$$(11) \quad 100 < m\left[w_4, p_{c4}, p_{x4}, v_4\right] \quad \text{and} \quad p_c C_4 > 160K$$

Choose line AA′, if

$$(12) \quad m\left[w_5, p_{x5}, v_5\right] < 100 \quad \text{and} \quad p_c C_2 < 130K < p_c C_1$$

Choose line BB′, if

$$(13) \quad 100 < m\left[w_6, p_{x6}, v_6\right] \quad \text{and} \quad p_c C_4 < 160K < p_c C_3$$

Choose line BD, if

$$(14) \quad U\left[M_{BD}, C_{BD}, X_{BD}\right] \; > \; V\left[w_2, p_{c2}, p_{x2}, v_2\right]$$

where:

$$C_{BD} = \left[PSTD' + f(1-t)160K + 100t'w - p_x X\right]/p_c$$

$$M_{BD} = 100 \qquad\qquad X_{BD} = X$$

Given these conditions for the choice of location, a more compact expression for the complete piecewise-linear labor supply equation is,

$$\begin{aligned} M = {} & D_1 D_8 m\left[w_1, p_{c1}, p_{x1}, v_1\right] + D_2 m\left[w_2, p_{c2}, p_{x2}, v_2\right] \\ & + D_3 D_9 m\left[w_3, p_{c3}, p_{x3}, v_3\right] + D_4 D_{10} m\left[w_4, p_{c4}, p_{x4}, v_4\right] \\ & + D_5 D_{11} D_{12} m\left[w_5, p_{x5}, v_5\right] + D_6 D_{13} D_{14} m\left[w_6, p_{x6}, v_6\right] \\ & + D_7 \cdot 100 \end{aligned} \qquad (15)$$

where:

$$D_i = 1 \text{ if } D'_i > 0; \quad D_i = 0 \text{ otherwise}; \quad i = 1,\ldots,14$$

$$D'_1 = 100 - m\left[w_1, p_{c1}, p_{x1}, v_1\right]$$

$$D'_2 = V\left[w_2, p_{c2}, p_{x2}, v_2\right] - U\left[M_{BD}, C_{BD}, X_{BD}\right]$$

$$D'_3 = m\left[w_3, p_{c3}, p_{x3}, v_3\right] - 100 \qquad D'_4 = m\left[w_4, p_{c4}, p_{x4}, v_4\right] - 100$$

$$D'_5 = 100 - m\left[w_5, p_{x5}, v_5\right] \qquad D'_6 = m\left[w_6, p_{x6}, v_6\right] - 100$$

$$D'_7 = U\left[M_{BD}, C_{BD}, X_{BD}\right] - V\left[w_2, p_{c2}, p_{x2}, v_2\right] \qquad D'_8 = 130K - p_c C_1$$

$$D'_9 = 160K - p_c C_3 \qquad D'_{10} = p_c C_4 - 160K \qquad D'_{11} = 130K - p_c C_2$$

$$D'_{12} = p_c C_1 - 130K \qquad D'_{13} = 160K - p_c C_4 \qquad D'_{14} = p_c C_3 - 160K$$

THE ECONOMETRIC MODEL

Estimating the unknown parameters of piecewise-linear labor supply equations with ordinary least squares (OLS) has several limitations. These limitations can be overcome by applying the technique of maximum likelihood estimation (MLE), instead. The maximum likelihood approach and its application to the case of piecewise-linear labor supply equations will be outlined below[4].

Estimation of Parameter Values With OLS

The "linearization" approach (Hall, 1973) enables the estimation of a piecewise-linear labor supply equation with ordinary least-squares by creating a one-segmented labor supply equation. The piecewise-linear nature of the labor supply equation is avoided by focusing on the segment of the budget constraint chosen by a respondent, as indicated by the number of hours worked. Only prices and nonlabor income describing the relevant segment of the budget constraint are considered in the estimation. This approach is based on the assumption that a person faced with a piecewise-linear budget constraint behaves as if faced with a simple linear budget constraint consisting of the chosen linearized segment.

Estimating the parameters of the reduced labor supply equation with OLS has several drawbacks. One problem is that it requires knowledge of the segments of the budget constraint chosen by the respondents. The main problem with this simplification stems from the dependence of the price of child care and unearned income on the number of hours worked. Since the error term in an empirical labor supply function affects hours worked, and consequently unearned income and the price of child care - which, in this case, are functions of hours worked - unearned income and the price of child care are necessarily correlated with the error term. This creates simultaneous equations bias, i.e. biased and inconsistent estimates if the unknown parameters are estimated with OLS. A further limitation of OLS is that kinklines are ignored as possible utility maximizing points in convex budget sets. Similarly, in nonconvex budget sets areas in which no utility maxima can occur will not be excluded from the solution space.

Maximum Likelihood Estimation

An alternative estimation technique for nonlinear models is the method of maximum likelihood. In large samples maximum likelihood estimates are asymptotically normal, asymptotically efficient and consistent (Moffitt, 1986c). The formulation of a likelihood function requires labor supply to be a random variable. This is typically accomplished by adding a normally distributed $N(0,\sigma^2)$ error term to the deterministic model.

For two reasons it is not desirable to estimate a segmented labor supply model on the basis of an additive error-term model. If, as one would expect, the variance of the error term is different from zero, then it is not guaranteed that the segment of the budget constraint on which hours of work are observed is identical with the one on which an individual's utility maximizing choice is located. A person's optimal and observed hours of work will only be on the same segment of the constraint if the variance of the error term is small enough to not move observed hours of work to a different segment. This possibility implies a systematic correlation between the magnitude of the error term and the marginal prices and income assigned as regressors which results in inconsistent estimates.

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[4] A detailed technical appendix can be obtained from the author.

A second problem with the additive error-term model is the restriction it imposes on supply responses to changes in the budget constraint. Underlying the additive-error-term model is the assumption that differences in the observed number of hours worked is due to measurement, specification or optimization error only. This implies that everybody in the population faced with identical prices, wage rates, and nonlabor income will choose the same utility maximizing point. Given that there is just one utility maximizing point, (ignoring income effects) price changes will only impact labor supply if the price change occurs on the segment on which the utility maximizing point is located. Price changes along any other segment of the budget constraint will have no effect on labor supply and, thus, on the expected value of hours worked (Moffitt, 1986c).

The assumption of identical utility maximizing choices for respondents faced with identical prices, wage rates and nonlabor income is very restrictive. Instead, one would expect some differences in labor supply to be caused by variations in people's preferences. Accounting for differences in preferences will result in more than one utility maximizing choice among respondents with identical budget constraints, so that a change in price along any segment of the budget set will induce a change in the expected value of labor supply.

Heterogeneity of preferences can be incorporated into the labor supply model by allowing one or more parameters in the utility function to vary according to measurable or unmeasurable personal differences. Measurable differences in tastes are most often attributed to characteristics such as age or education. Since it is unlikely that all differences in preferences are accounted for with measurable variables, it is still possible that two individuals with identical personal characteristics and budget sets prefer to work substantially different hours. The effects of unmeasurable individual preferences can be captured by including random parameters in the utility function. Depending on the values these random variables take on, indifference curves rotate and, therefore, create different utility maximizing points along the budget constraint.

Random parameters in the utility function have a further advantage. In combination with the error term model they allow for the possibility that actual and desired hours of work are not the same by assessing the joint likelihood of observing (1) optimal hours of work, and (2) a discrepancy between optimal and actual hours of work. Since optimal labor supply may not be on the same segment of the budget constraint as actual labor supply, it is necessary to determine for each person in the sample the likelihood of observing reported hours of work if optimal labor supply were on either segment or kink of the constraint.

THE EMPIRICAL MODEL

In this study, labor supply is a function of the wage rate, the price of child care, the per capita AFDC payment standard and variables accounting for differences in individuals' preferences. The hypothesized effect of each variable is outlined below.

Wage Rate: Economic theory does not predict the net effect of a ceteris paribus change in the wage rate. Depending on whether the substitution effect or the income effect prevails, market work will either increase or decrease. A measure of the wage rate was obtained by dividing monthly earnings by hours worked per month.

Price of Child Care: An increase in the price of child care is expected to result in a decrease in the quantity of market child care demanded, due to the negative own-price effect, holding everything else constant. If market work and child care are complements, this reaction will lead to fewer hours worked. An increase in the price of market care also decreases the relative price of child care provided by the parent, ceteris paribus. As a result, home produced child care is expected to increase which, given the time constraint, will result in fewer hours of market work. A measure of the price of child care was derived by dividing monthly child care expenditures by hours of child care purchased per month.

Nonlabor Income: Previous research indicates that leisure is a normal good (Killingsworth, 1983; Killingsworth & Heckman, 1986). The only nonlabor income AFDC recipients receive are welfare payments, the amount of which depends on family size and the state a recipient lives in. Within a particular state an increase in the AFDC payment standard is, thus, due to an increase in family size. To distinguish effects of changes in nonlabor income from family size effects, the per capita AFDC payment standard was used as a measure of nonlabor income.

Family Size: In this model the effect of family size and composition is addressed by including the number of children five years and younger into the labor supply equation. Considering only the number of children under six clearly does not do justice to the varying effects of family members of different ages on mother's employment. However, since children below the age of five tend to influence a mother's work behavior more than older children, this variable is expected to account for a substantial portion of the family size and composition effects.

Education: Additional years of education, measured as completed years of school, are expected to increase a woman's market and household productivity as well as change her preferences. Since these effects influence labor supply in opposite directions, the net effect of a ceteris paribus change in education on market work is ambiguous a priori.

Length of Stay on AFDC: Length of stay on AFDC may influence a recipient's labor supply in a number of ways, ceteris paribus. In the past it has been documented that a majority of welfare recipients are on welfare for a relatively short period of time, that other recipients stay on welfare for several years, interrupted by spells of independence, while still another group of recipients receives AFDC until their children are no longer eligible (Hoffman, 1987). Based on these observations, the conclusion has been drawn that some people are prone to welfare dependency. To be eligible for AFDC less than a certain amount of money has to be earned. Therefore, the longer a person is on AFDC, the more likely it is that fewer hours will be spent in market work.

In a society in which individual effort is highly regarded, to some, welfare receipt has a stigma effect (Moffitt, 1983). Since one way of leaving welfare is through work, it is hypothesized that the longer a person is on AFDC, the more the stigma effect may serve to increase work effort, and thus enable a welfare recipient to leave the program. The reverse argument is also made: the longer a person is on welfare, the less burdensome the stigma effect becomes, which in turn may lower paid work efforts. In addition, a recipient will learn to manage with very limited resources and will learn how to use the welfare system to her advantage. As in the case of education, the theoretical model does not provide a definite hypothesis for the net effect of length of stay of AFDC on labor supply. Length of stay on AFDC was measured as number of years a respondent has received AFDC payments.

Race: Previous research has found race to be an important determinant of labor force behavior (Ehrenberg & Smith, 1987). Differences in the respondents' race are incorporated into the empirical model with two dummy variables: the variable RACE1 takes on a value of one if a respondent is black, the variable RACE2 takes on the value of one if the respondent is Caucasian. The majority of the respondents represented in the excluded category are of Hispanic origin.

In the case of nonconvex budget sets, the derivation of a maximum likelihood function designed to estimate a piecewise-linear labor supply equation requires a specific indirect utility function and the corresponding labor supply equation. Finding reasonably simple mathematical expressions for a labor supply equation and the corresponding utility functions is, in the case of three goods, not trivial. The indirect utility function used by Hausman and Ruud (1984) has the advantage of flexibility and of a labor supply equation linear in variables. The empirical model is shown in equation (16)[5].

$$
\begin{aligned}
(16)\quad H_{ij} = {} & \alpha_1 + \beta_1\theta + \beta_1 PC\_PSTD_j + \left[\alpha_1\beta_1+\gamma_1\right]wage_j + \left[\alpha_2\beta_1+\delta\right]p_{ccj} \\
& + \tfrac{1}{2}\beta_1\left[\gamma_1 wage_j^2+\gamma_2 p_{ccj}^2\right] + \beta_1\delta\, wage_j p_{ccj} + a_1 KO\_5 + a_2 EDU \\
& + a_3 YRS\_AFDC + a_4 RACE1 + a_5 RACE2 + \epsilon_{ij}
\end{aligned}
$$

where:

i = 1, .., n observations in the sample

j = 1, .., 7 sections of the labor supply equation

a_k = unknown parameters of the labor supply equation

RESULTS

The results are based on a 1983/84 panel data set of 100 working AFDC recipients in Denver, CO. Some some characteristics of the sample can be found in table 1. Three different techniques are used to estimate the labor supply model. The first set of estimates is based on OLS, ignoring AFDC regulations ("naive" approach). The second set is based on the linearization approach and OLS, while the final estimates are the result of ML estimation[6] (tables 2-4).

TABLE 1 Characteristics of Working AFDC Recipients Receiving the Earned Income Disregard

Variable	Mean	Std. Dev.	Median
AFDC Payment Standard	374.89	88.50	336.00
R's Age	30.92	6.42	30.00
R's Age at First Birth	19.00	2.74	19.00
Child Care Expenditures/Month	57.92	72.75	30.00
Earnings/Month	420.51	226.50	382.00
Hours of Work/Month	102.16	43.97	92.00
Hrs. of Child Care/Month	122.30	49.32	120.00
Number of Children 0-17	2.59	1.28	2.00
No. of Children 0-2	0.31	0.51	0.00
No. of Children 3-5	0.61	0.70	0.00
No. of Children 6-11	1.26	0.80	1.00
No. of Children 12-17	0.42	0.71	0.00
Adults in HH besides R	0.48	1.02	0.00
Price of Child Care/Hr.	0.50	0.59	0.33
Wage Rate/Hour	4.03	1.21	3.96
Years of Education	11.17	1.76	11.50
Years on AFDC	6.79	3.93	7.00

Race Black 44.4% White 21.4% Other 43.2%

Number of Observations: 196

TABLE 2 Labor Supply Estimates for AFDC Recipients Receiving Earned Income Disregard: "Naive" Approach

Variable	P.Estimate	Std.Error	t-Statistic
Intercept	79.489	35.757	2.223
P.C. AFDC Paym. Std./100	-24.128	23.092	-1.045
Wage Rate/Hr.	34.590	9.400	3.704
Wage Rate/Hr. Squared	-9.051	2.293	-3.947
Price of Child Care/Hr.	-119.515	25.228	-4.737
Price of Child Care/Hr. Squ.	-27.820	18.070	-1.540
Wage Rate•Price of Child Care	30.161	5.206	5.793
Number of Children 0-5	-3.037	4.218	-0.720
Years of Education	0.632	1.756	0.360
Years on AFDC	-0.722	0.796	-0.907
Race1	2.368	6.930	0.342
Race2	-37.476	8.406	-4.458

St. Error of Error Term: 37.900 Degrees of Freedom: 184

R-Squared: 0.299 Adjusted R-squared: 0.257

For the "naive" approach, the effect of an increase in the price of child care on the labor supply of AFDC recipients can be determined by differentiating the estimated labor supply equation with respect to the price of child care. An evaluation of the resulting expression at the sample mean indicates that child care and work are complementary goods: a one dollar increase in the price of child care, on the average, leads to a monthly reduction in labor supply of about 12 (-11.89) hours, ceteris paribus.

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[5] In a three-dimensional budget set two parameters need to be random to allow for different utility maximizing points for respondents with identical observed characteristics. The two random parameters in this model are α_1 and α_2.

[6] The empirical model was estimated with the programming language GAUSS (Gauss, 1986). Two state-of-the-art maximization algorithms were used: the BHHH modified version of scoring and the BFGS positive definite secant update algorithm.

Determining the effect of a ceteris paribus increase in the price of child care on AFDC recipients' work effort for the segmented labor supply equation requires differentiating every segment of the equation with respect to the price of child care. Conditional on the choice of a segment, a change in the price of child care has the following effect on labor supply:

$$(17)\quad \frac{dM}{dp_c} = D_1D_8\left[\frac{dm}{dp_{c1}}\cdot\frac{dp_{c1}}{dp_c}\right] + D_2\left[\frac{dm}{dp_{c2}}\cdot\frac{dp_{c2}}{dp_c}\right] + D_3D_9\left[\frac{dm}{dp_{c3}}\cdot\frac{dp_{c3}}{dp_c}\right] + D_4D_{10}\left[\frac{dm}{dp_{c4}}\cdot\frac{dp_{c4}}{dp_c}\right] + D_5D_{11}D_{12}\left[\frac{dm}{dp_{c5}}\cdot\frac{dp_{c5}}{dp_c}\right] + D_6D_{13}D_{14}\left[\frac{dm}{dp_{c6}}\cdot\frac{dp_{c6}}{dp_c}\right]$$

Note that the marginal effect of a change in the price of child care differs with the choice of segment or kink. A one dollar increase in the market price of child care translates into an increase in the effective price of child care of one dollar in areas two or four, but results in an increase of only [1-f·(1-t)] or 0.451 dollars in areas one and three of the budget constraint. If a kink is chosen prior to a change in the price of child care a person may "stick" at the kink, i.e. not react to the change. Note, furthermore, that equation (17) does not take into account the total change in labor supply due to a change in the price of child care. The assessment of the marginal effect ignores the possibility that an individual may change the segment or kink originally chosen (Moffitt, 1986c). If the marginal effect of a change in the price of child care is calculated as the average of the marginal effects of all observations in the sample according to the linearization approach a ceteris paribus increase by one dollar is associated with 26 (-26.44) fewer hours of work per month.

TABLE 3 Labor Supply Estimates for AFDC Recipients Receiving Earned Income Disregard: Linearization Approach

Variable	P.Estimate	Std.Error	t-Statistic
Intercept	68.182	35.673	1.911
P.C. AFDC Paym. Std./100	-12.497	20.561	-0.608
Wage Rate/Hr.	64.817	21.055	3.079
Wage Rate/Hr. Squared	-33.603	11.118	-3.022
Price of Child Care/Hr.	-144.871	31.866	-4.546
Price of Child Care/Hr. Squ.	26.485	22.512	1.176
Wage Rate·Price of Child Care	60.848	13.393	4.543
Number of Children 0-5	-6.245	4.365	-1.431
Years of Education	0.854	1.754	0.487
Years on AFDC	-0.674	0.817	-0.824
Race1	6.932	6.956	0.997
Race2	-37.788	8.613	-4.387

St. Error of Error Term: 38.902 Degrees of Freedom: 184
R-Squared: 0.261 Adjusted R-Squared: 0.217

Maximum likelihood estimates predict the following labor supply equation[7]:

$$(18)\quad M_j = 80.16 - 17.06\cdot(PC\_PSTD_j/100) + 101.34\cdot wage_j - 25.67\cdot wage_j^2 - 147.93p_{ccj} + 10.11\cdot p_{ccj}^2 + 56.51\cdot w_jp_{ccj} - 5.08\cdot KO\_5 - 1.52\cdot EDU - 1.96\cdot YRS\_AFDC + 2.82\cdot RACE1 - 41.24\cdot RACE2$$

Holding all other factors constant, an increase in the price of child care by one dollar results, on the average, in 51 (-51.21) fewer work hours per month, holding all other variables constant.

TABLE 4 Labor Supply Estimates for AFDC Recipients Receiving Earned Income Disregard: Maximum Likelihood Approach

Parameter	P.Estimate	Std.Error	t-Statistic
α_1	-5.765	3.010	-1.915
β_1	-17.056	7.970	-2.140
θ	-5.038	2.478	-2.033
γ_1	3.010	1.674	1.798
α_2	8.479	4.691	1.807
δ	-3.313	2.353	-1.408
γ_2	-1.186	5.576	-0.213
Number of Children 0-5	-5.080	5.637	-0.901
Years of Education	-1.524	2.046	-0.745
Years on AFDC	-1.960	0.873	-2.245
Race1	2.815	7.445	0.378
Race2	-41.237	8.999	-4.583
St. Dev. Error Term	13.819	5.362	2.577
St. Dev. α_1	1.303	0.612	2.129
St. Dev. α_2	0.731	3.064	0.238

- Log Likelihood: 1008.8287 Degrees of Freedom: 181

DISCUSSION

A comparison of the three sets of parameter estimates shows that the number of children five years and younger, years spent on AFDC and being Caucasian all serve to decrease AFDC recipients' labor supply, ceteris paribus. Years of education have the opposite effect, except for the MLE estimate. Note that only being Caucasian has a statistically significant effect.

For ease of comparison table 5 reports the nonlabor income, wage rate and price of child care effects as elasticities[8].

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[7] MLE requires finding the global maximum of a function. In the case of complex likelihood functions, it is very possible that estimates represent a local rather than a global maximum. This issue can be addressed by repeating the estimation procedure with different starting values. The initial estimates in this study were either OLS estimates from the 'naive model', or OLS estimates derived from the linearization approach. There is still no guarantee that the reported estimates are associated with the global maximum of the likelihood function.

[8] Since AFDC regulations were ignored in the 'naive' approach, the elasticities were computed at the sample means. The complex nature of the labor supply equation accounting for AFDC regulations

TABLE 5 Nonlabor Income, Uncompensated Wage Rate and Child Care Price Elasticities of Labor Supply

	Nonlabor Income	Wage Rate	Price of Child Care
"Naive" Approach	-0.259	0.519	-0.058
Linearization Approach	-0.221	0.451	-0.013
Maximum Likelihood Estimation	-0.302	0.506	-0.199

All three nonlabor income elasticities are consistent with the hypothesized sign and inelastic (-0.221 to -0.302): AFDC recipients work fewer hours if the per capita AFDC payment standard is increased, ceteris paribus.

The three wage rate elasticities also have the expected sign and are inelastic. Previous research indicates a rather large range of uncompensated wage rate elasticities for female labor supply, reaching from -0.30 to over 14, with more recent uncompensated wage rate elasticities between 0 and 2 (Killingsworth & Heckman, 1986). All three of the uncompensated wage rate elasticities for AFDC recipients in this study, thus, fall within the range of existing estimates, although they are clearly on the lower end. They are consistent with Moffitt's 1983 study which found the wage rate elasticities for AFDC recipients to be 0.44.

The child care price elasticities of labor supply are also as hypothesized in sign and inelastic. While two of the estimates are close to zero, the child care price elasticity based on MLE results is -0.2. Although an average of thirteen fewer hours of work per month as a reaction to a one dollar increase in the price of child care is not a large change, a decrease of fifty-one hours of paid work indicates that the price of child care may have a substantial influence on welfare recipients' work behavior. The 51-hour estimate is based on an economic model which accounts for AFDC regulations and a corresponding statistical analysis. Thus, in theory, this result should represent the better estimate.

Since this study is based on a sample from one state and did not address the issues of autocorrelation, multicollinearity and sample selectivity, further research efforts are needed to ascertain the robustness of the results.

To understand the role of child care in welfare recipients' work behavior it is furthermore necessary to determine the types of child care preferred by low-income parents, whether certain child care arrangements are more suitable to stable employment patterns and how in-kind payments impact on labor supply decisions. To my knowledge, there is no research that addresses any of these issues.

REFERENCES

Blau, D.M. & Robins, P.K. (1988). Child Care Costs and Family Labor Supply. The Review of Economics and Statistics, 70 (3), 374-381.

Dickinson, K. (1975). Child Care. In: G.J. Duncan & J.N. Morgan (Ed.), Five Thousand American Families - Patterns of Economic Progress, Vol. 3, 221-233. Ann Arbor, Mich.: Survey Research Center, Institute for Social Research, The University of Michigan.

Ditmore, J. & Prosser, W.R. (1973). A Study of Day Care's Effect on the Labor Force Participation of Low-Income Mothers. Washington, D.C.: Office of Economic Opportunity, Office of Planning, Research and Evaluation.

Ehrenberg, R. & Smith, R. (1987). Modern Labor Economics: Theory and Public Policy. Third Edition, Dallas, TX: Scott, Foresman and Company.

Floge, L. (1985). The Dynamics of Child Care Use and Some Implications for Women's Employment. Journal of Marriage and the Family, 47 (1), 143-154.

GAUSS Programming Language Mannual (1986). Aptech Systems Inc., Kent, Washington.

Hall, R. (1973). Wages, Income, and Hours of Work in the U.S. Labor Force. In: G.Cain & H. Watts (Ed.), Income Maintenance and Labor Supply. Chicago: Markham.

Hausman, J.A. (1979). The Econometrics of Labor Supply on Convex Budget Sets. Economics Letters, 3 (2), 171-174.

Hausman, J.A. & Ruud, P. (1984). Family Labor Supply with Taxes. American Economic Review, 74 (2), 242-248.

Heckman, J.J. (1974). The Effects of Child Care Programs on Women's Work Effort. Journal of Political Economy, 82 (2), S136-S163.

Killingsworth, M.R. & Heckman, J.J. (1986). Female Labor Supply: A Survey. In: O.C. Ashenfelter & R.Layard (Eds.), Handbook of Labor Economics, Vol.1. New York: North-Holland Publishing, 103-198.

Killingsworth, M.R. (1983). Labor Supply. Cambridge: Cambridge University Press.

Kurz, M., Robins, P.K. & Spiegelman, R. (1975). A Study of the Demand for Child Care by Working Mothers. Menlo Park, CA.: Socioeconomic Research Center, SRI International, Research Memorandum 27.

Lueck, M., Orr, A.C., & O'Connell, M. (1983). Trends in Child Care Arrangements of Working Mothers. Washington, D.C.: U.S. Dept. of Commerce, Bureau of the Census, Current Population Report, Special Studies P-23, No.117.

Moffitt, R. (1986). The Econometrics of Piecewise-Linear Budget Constraints. Journal of Business and Economic Statistics, 4 (3), 317-328.

Moffitt, R. (1983). An Economic Model of Welfare Stigma. American Economic Review, 73 (5), 1023-1035.

Morgan, J.N. (1981). Child Care When Parents are Employed. In: M.S. Hill, D.H. Hill & J. Morgan (Ed.), Five Thousand America Families - Patterns of Economic Progress, Vol. 9, 441-456. The University of Michigan: Survey Research Center, Institute for Social Research.

Oppenheim Mason, K. (1987). The Perceived Impact of Child Care Costs on Women's Labor Supply and Fertility. University of Michigan: Population Studies Center, Research Report No.87-110.

Presser, H.B. & Baldwin, W. (1980). Child Care as a Constraint on Employment: Prevalence, Correlates, and Bearing on the Work and Fertility Nexus. American Journal of Sociology, 8 (5), 1202-1213.

Robins, P. & Spiegelman, R. (1978). An Econometric Model of the Demand for Child Care. Econometric Inquiry, 16 (1), 83-94.

Stolzenberg, R.M. & Waite, L.J. (1981). Labor Market Effects on Female Labor Force Participation, Final Report to the Employment and Training Administration. Washington, D.C.: U.S. Dept. of Labor.

U.S. Dept. of Health and Human Services (1984). Characteristics of State Plans for Aid to Families with Dependent Children under the Social Security Act Title IV-A. Washington D.C.: Social Security Administration, Office of Family Assistance.

Yaeger, K.E. (1977). Modal Choice in the Demand for Child Care by Working Women. Princeton: Princeton University Working Paper No. 105.

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required a calculation of elasticities for each respondent in the sample. The reported elasticities are their averages.

CHILD SUPPORT REFORM AND NONCUSTODIAL'S LABOR SUPPLY

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Data from court records and a telephone survey after a Wisconsin child support reform began indicate that immediate withholding increases noncustodial's work hours. The support order is modeled as a lump sum tax, whereby parents are expected to work more to maintain own consumption levels. However the reform attempted to impose a percentage-of-income support standard that would reduce the net wage per work hour, which could have the opposite effect. It was not possible to monitor the percentage standard.

INTRODUCTION

The Family Support Act of 1988 requires all states to adopt income withholding for child support obligations by 1994. The Act also requires that the states adopt numeric child support guidelines to determine child support obligations. Wisconsin has been experimenting with reforms of this type since 1984. (Garfinkel, et al. 1988). This paper evaluates the effects of Wisconsin's percentage-of-gross-income support standard and immediate income withholding on the employment behavior of noncustodial parents (NCs). The specific focus is annual work hours.

It is less likely that child support reform will be a divisive influence on the relationship between NCs and their ex-mates if they are willing and able to work more hours to offset the potential reduction in their incomes caused by support payments. Evidence that the reforms lead to reduced work hours would indicate that NCs tend to be disgruntled by the new policies. Hence this evaluation can provide some insights about the repercussions of the reforms for family and individual well-being.

Economic theory suggests that the effect of having to pay a "tax" out of total employment income that does not vary with that income will be to increase labor supply to pay the tax. Ordinarily, child support awards are set in fixed dollar amounts. Hence the income effect of having to pay them would be to increase work hours. Immediate income withholding is intended to better enforce child support orders, and thus the main hypothesis is that this reform will increase NC's labor supply.

An effective percentage standard would change child support obligations as earned income changes. In that case the policy would change the net wage rate per work hour, with substitution effects that could offset the income effect of having to pay child support. Hence my analysis controls for the percentage standard. However because it is administratively difficult to change support awards as income changes it is very unlikely that the Wisconsin percentage standard was effective.

In late 1983, Wisconsin established a percentage-of-income standard for use by the courts to set support awards. Between January and June 1984 ten Wisconsin pilot counties began to use income withholding on a routine basis. In 1985 the legislature made the percentage standard presumptive as of July 1987, and allowed additional counties to use immediate withholding. Therefore many of the control counties also began withholding during 1985. All Wisconsin counties were required to do so as of July 1987.

To evaluate the effects of the percentage standard and withholding, the Institute for Research on Poverty randomly sampled family court records (CRD) in 20 Wisconsin counties. These records involve divorce, separation, and paternity cases for which there was at least one child under age 18. The ten pilot counties had agreed to implement immediate income withholding for all cases in which it was possible on a routine basis. Ten "matched" control counties were chosen based on county population, divorce rate, geographic location, average per capita income, and the unemployment rate. The control counties have slightly higher populations, numbers of divorces, per capita incomes, and unemployment rates.

The CRD sample for the years 1980-1986 was divided into six cohorts by the year during which the case began. Within each county about 30 to 150 cases were chosen in each cohort, and sample weights were constructed to adjust for the differences in the proportions of cases selected in each county and cohort.

For each case, information was collected about every court action, such as about custody, visitation, and support orders. Additionally the CRD provided demographic information, such as the number and ages of children. Unfortunately, much of the income and employment data is missing. For that reason, the Institute also conducted a telephone interview during Summer 1987 to collect extensive information from a sample of parents from cohorts 4, 5, and 6. The Parent Survey (PS) refers to cases collected after the implementation of withholding on a statewide basis. It obtained information on pilot and control county parents' experience with withholding before Summer 1987.

An important aspect of implementation is that it occurred gradually. Withholding began first and progressed the most in the pilot counties. The proportion of cases assigned withholding increased from 4, 5, and 6 percent in the first three predemonstration cohorts to 57, 56, and 65 percent in the demonstration-period cohorts. Additionally, the use of withholding increased in the control counties from 25 percent for cohort 4 to over half of the cases for cohort 6. Thus simple comparisons of collections in pilot versus control counties will seriously underestimate withholding effects.

Because the labor supply information was collected by telephone after withholding began, this study is restricted to the demonstration period. Before/after analyses of work hours are not possible. However, we can infer from cross-site analyses, and by comparing the labor supply behavior of individual NCs who either did or did not have an immediate income withholding assignment.

Analysis Sample Parent Survey interviews were completed for 734 of 1521 CRD noncustodials, for a final response rate of about 48 percent. (About 15 percent of those NCs that were contacted by mail or telephone to request an interview refused.)

The employment section of the PS interview was designed to obtain information on the beginning and end dates for all the jobs that the respondent had held during 1986, up to and including those held at the time of the interview. For each job respondents were asked about whether they had been an employee or had been self-employed. Employees were asked about the number of hours they had worked per week on average for each job. If the job involved self-employment, the questions about hours were not asked. Seventy-one PS respondents (10 percent) were self-employed for all 1986, and thus there are no data on their work hours, which means they could not be used to analyze labor supply. Of the 663 noncustodials that remained, the interviewers were not able to obtain information on employment hours for 35. Hence the analysis sample for evaluating labor supply effects consists of 628 noncustodials who were employees during 1986, and for whom we were able to obtain complete information on their work hours. (Only 11 PS respondents were self-employed for part of 1986.)

The PS interview failed to get wage information from 37 of the 663 noncustodials who were not self-employed throughout 1986. I used the subsample of 663 noncustodials to predict wage rates for all 628 cases in the labor supply analysis sample, to retain the 37 cases without wage information. (See the Appendix to MacDonald and McMahon, 1989).

SELECTIVITY ISSUES

An obvious issue is the extent to which PS respondents are "selected" as a nonrandom subset of the CRD. This sample selectivity could result from problems in locating NCs to request interviews, as well as differential rates of refusal to be interviewed.

Even if we had been able to interview all CRD NCs, the analysis of the effects of withholding presents another type of selectivity problem. If the courts assigned immediate withholding more often to selected types of NCs, then the individual case treatment variables we use to measure the effects of withholding on labor supply will be misleading unless we correct for that selection process.

I used the same procedure to correct for both PS sample selectivity and withholding selectivity. CRD data and variables defining the noncustodials that responded to the PS or were assigned withholding were used to predict which types of noncustodials were more likely to respond to the PS, or to be assigned withholding. These predicted variables were then used to generate new variables (PS lambda and withholding lambda) to correct for selectivity in the labor supply analysis. (MacDonald and McMahon, 1989).

The PS was more likely to interview noncustodials who had court awards. Among those who had awards, the PS also interviewed more NCs who had been assigned withholding. With respect to income the PS was less likely to have interviewed those NCs for whom there is missing data, or who had income amounts below $495 per month. Additionally CRD tabulations show that, given an award, income withholding is assigned more often to noncustodials with relatively high incomes.

The support award amount is very important because it measures the decrease in income from the reform if the entire award is collected. To the extent that those who had awards in the PS had amounts that are not representative of the entire CRD population, it would be desirable to have an alternative measure of the award amount. Thus the CRD was also used to predict award amounts for all of the PS cases, correcting for which types have an award.

Labor Supply Analysis And Results

The dependent variable for the evaluation of the labor supply effects of the child support reform was defined as the total hours of work that the PS respondents performed as employees during calendar year 1986. Table 1 provides abbreviations and definitions for all of the independent variables that were used to analyze the sources of variation in annual work hours. As indicated in Table 2 the average annual hours for the 628 PS analysis sample members was 2018.

"Selectivity corrected" ordinary least squares regressions were specified in double-log form, which refers to the use of the natural log transformation of the hours, wage, and award amount variables. This specification is desirable because it permits interpretation of the wage and award coefficients as elasticities (measuring the effect, in percentage terms, on the natural log of work hours of a 1 percent change in those independent variables.)

In addition to the wage rate, economic theory dictates including the person's nonearned income and the income of any spouse. Because we used a number of sociodemographic variables to predict our wage rate measure the list of additional labor supply predictors is short.

Table 1. Parent Survey Variable Definitions (N = 628).

Dependent Variables	
Ln Hours:	Natural log of 1986 work hours.
Treatment Variables	
PSTD:	Dummy variable = 1 if PS respondent reported standard was applied as a percentage of their income.
PILCO:	Equals 1 if NC's case was from a pilot county.
CRDW:	Equals 1 if CRD variable indicates immediate withholding.
PSW:	Equals 1 if PS respondent reported immediate withholding.
Other Independent Variables	
LNWAGE:	Predicted natural log of reported wage rate in PS
LNAWD:	Predicted natural log of award amount, from CRD
UNEARN:	NC's nonearned income (also excludes any public assistance).
SUNEARN:	Spouse's income.
COH5:	Cohort 5 of CRD sample.
COH6:	Cohort 6 of CRD sample.
PRESCH:	Equals 1 for preschool children.
LIMILL:	Limiting condition on kind or amount of work.
ILL:	Severe work limitation due to illness.
CPAR:	Equals 1 if custodial parent in PS.
Selectivity Correctors	
Withholding Lambda:	(Heckman) correction term, predicted from CRD.
PS Response Lambda:	(Heckman) correction term, predicted from CRD.

Table 2. Means and Standard Deviations for Parent Survey Labor Supply Analysis (N = 628)[a].

	Mean	Standard Deviation
Ln Hours	7.61[b]	2.12
Treatment Variables		
PSTD	0.24	0.43
PILCO	0.46	0.50
CRDW	0.48	0.50
PSW	0.57	0.50
Other Independent Variables		
LNWAGE	2.12	0.31
LNAWD	6.57	0.97
UNEARN (thousand $)	0.55	2.83
SUNEARN (thousand $)	1.87	5.38
COH5	0.37	0.48
COH6	0.37	0.48
PRESCH	0.15	0.36
ILL	0.15	0.36
LIMILL	0.08	0.27
CPAR	0.02	0.13
Selectivity Correctors		
Withholding lambda	0.46	0.88
PS response lambda	0.07	0.51

[a] Variables defined in Table 1.

[b] Antilog is 2018 hours.

Treatment Variables And Selectivity Correctors

PS respondents were asked whether their support orders are supposed to change as a percentage of income with changes in their income. This is the basis for the dummy variable PSTD.

The availability of both CRD and PS information about withholding status also provides two different variables that can be used to measure the effect of immediate withholding at the individual level: Court Record Withholding (CRDW) and Parent Survey Withholding (PSW). The first indicates that, according to the CRD, the NC was assigned immediate withholding. The second indicates that the Parent Survey respondents reported that their child support payments were immediately deducted from their paychecks. Although it is possible that some PS respondents misstated their true status for withholding, the information from the PS responses is more recent. Hence some cases that were assigned withholding subsequent to their court date may be more correctly represented by PSW than CRDW. The means for these variables do indicate that more NCs said that they were subject to withholding in the PS than according to the CRD. Fifty-seven percent of the PS respondents reported immediate withholding, compared to 48 percent in the CRD.

A third variable was also used to measure withholding. Abbreviated as PILCO, it merely indicates that the NC case was determined in a pilot county. Because withholding began to be implemented earlier in the pilot counties, NCs from those counties are more likely to have income withheld, compared to those from control counties. Although we expected that the individual-level information from CRDW and PSW would provide a more accurate measure of the effects of withholding, PILCO should provide a "lower-bound" estimate of those effects on labor supply. Forty-six percent of the PS analysis sample NCs were from courts in the ten pilot counties.

Preliminary work with the labor supply equations indicated that the PS and withholding lambda correctors may be too collinear to permit using them together. When both the withholding lambda and the PS lambda were included as predictors of work hours, the withholding lambda was significant, but the PS lambda was not. However when entered alone, the PS variable became significant. (These results probably stem from the common influence of the employment-related court record variables.) Given this evidence for collinearity between the PS response and withholding selectivity correctors, I had to assume that either the PS lambda or the withholding lambda corrects sufficiently for selectivity into both the PS sample and the withholding treatment group.

It also seemed best to correct with the PS lambda only when the pilot county variable was specified as the measure of withholding treatment because that treatment measure is not specific to individual NC analysis cases. The predicted withholding status for each case that supports the withholding lambda seemed more appropriate to use with the immediate withholding indicator from either the CRD or PS.

Table 3 provides three versions of PS labor supply estimation, corresponding to the separate use of the three different withholding treatment variables. Model 1 uses the pilot county dummy to indicate withholding, Model 2 uses the court record variable indicating immediate withholding was assigned by the courts, and Model 3 used the PS response to the question about whether the NC was subject to immediate withholding.

Table 3. Weighted OLS Regressions on Noncustodial Parent's 1986 Employment Hours (N = 628)[a].

	Model 1	Model 2	Model 3
Treatment Variables			
PSTD	0.05	0.03	0.02
PILCO	-0.05	--	--
CRDW	--	0.07	--
PSW	--	--	0.10*
Other Independent Variables			
LNWAGE	0.27*	0.22*	0.22*
LNAWD	0.05	0.06*	0.06*
UNEARN	0.00	0.00	0.00
SUNEARN	0.00	0.00	0.00
PRESCH	0.05	0.04	0.04
COH5	-0.03	-0.05	-0.05
COH6	-0.15*	-0.24*	-0.22*
LIMILL	0.06	0.03	0.03
ILL	-0.17	-0.14	-0.14*
CPAR	0.06	0.07	0.11
Selectivity Correctors			
Withholding lambda	--	0.09*	0.08*
PS response lambda	0.11*	--	--
Intercept	6.81	6.75	6.66
Adjusted R^2	0.11	0.09	0.10

[a] Variables defined in Table 1.

*Significant at 0.05 level.

Although none of the models indicate that the percentage standard has a labor supply effect, the coefficients on the award amount in all three do indicate that those NCs who are ordered to pay more child support work more hours. For every 10 percent increase in the award amount, work hours appear to increase 0.6 percent.

For comparison, note that the wage coefficient indicates that NCs are much more responsive to the effect of increased wages. Using Models 2 and 3 the conclusion would be that doubling the wage would increase work hours by 22 percent.

It is somewhat surprising that the coefficients for nonearned income (respondent's or spouse's) show no effect on labor supply. These results differ from the usual finding that nonearned income reduces men's labor supply. Perhaps that finding does not hold when the sample is restricted to the divorce and paternity cases analyzed here.

Similarly, the strong negative effect of a more recent court date (COH6) was not anticipated. Those whose case had been decided about one year before the parent interview are predicted to work from 15 to 24 percent fewer hours annually. It seems likely that this difference is associated with the personal turmoil that a divorce or paternity case engenders.

Impacts Of Immediate Withholding

Reading from left to right, Table 3 shows that the coefficients for the three withholding treatment variables increase from Model 1 to 3, as is consistent with their definitions. PILCO has the smallest coefficient, and it is not statistically significant; this county level indicator of the extent of withholding shows no effect of that policy. Hence our "lower bound" estimate of the magnitude of withholding's labor supply impact is that there is none. Model 2 produced a coefficient for the CR withholding treatment dummy with a value of 0.07, but it too was not significantly different from zero. However Model 3's use of the respondent's indicator from the PS yields a withholding treatment coefficient value of 0.10, and it is statistically significant. Based on that evidence from Model 3, the inference is that those NCs who had immediate withholding worked 10 percent more hours than those who did not (10 percent more in natural log hours--more about interpreting this below).

There are a number of caveats that need to be kept in mind when considering these results. First, unless there is substantially more error in the CRD withholding measure, it is puzzling why the PS treatment variable should be significant while the CRD version of that same variable was not. Second, if there is an important effect of withholding on employment, it would seem that even a county level variable like PILCO would show a positive impact on work hours for the NCs from those counties which implemented withholding earliest. Third--and this applies to all three models-- it may be that the method used to correct for selectivity bias in PS response and/or withholding assignment has not adequately controlled for the compositional differences between the CRD and PS samples.

Nevertheless, there is much to recommend for the findings from Model 3. It is likely that the PS respondents understood the withholding question and thereby provided more accurate information about 1986 withholding status than the CRD variable could have. The prediction equation for withholding correctly predicted this status for 75 percent of the CRD cases. Hence, provided that there is sufficient collinearity between the factors that influence both PS response status and withholding, Model 3 would provide unbiased estimates of the effect of withholding, as measured at the individual level. What if Model 3 is correct? What can be said about the practical importance of its withholding treatment coefficient? A 10 percent effect from withholding on the natural log of annual work hours, when evaluated at the sample average of 2018 work hours, would imply an increase of about six hours per week. For an NC whose annual work hours were one-half the average, the impact would be 3.25 hours per week. At 25 percent above average annual hours, the effect would be nearly eight hours per week. Based on these illustrations, it seems that immediate withholding does have a sizable impact on work hours, as would be predicted from labor supply theory.

CONCLUSION

To evaluate the effects of immediate income withholding and the percentage-of-gross income standard for setting child support orders, this study analyzed the annual work hours of noncustodial parents from a court record case sample of 10 pilot and 10 control counties in Wisconsin. The pilot counties implemented the standard and withholding as part of a demonstration that began during 1984, but by 1985 the control counties had also begun to implement the reforms. The lessons that may be learned from Wisconsin's experience with these particular reforms are important for national policy because the same types of child support enforcement mechanisms have recently been mandated by the Family Support Act of 1988.

The results from the labor supply models vary with respect to the alternative withholding treatment variables--from no effect that withholding is responsible for, to a 10 percent increase in the dependent variable. Evaluated at the mean annual hours for the sample of parent survey respondents, that percentage translates as a six hour per week change in work hours.

At a minimum, these results indicate that withholding has not induced reductions in noncustodial parents' work effort. Assuming that the correction for sample and withholding assignment selectivity has been effective, the parent survey response measure of withholding's effect suggests that noncustodials actually work more hours because of immediate income withholding. If correct, this result implies that the adoption of immediate withholding nationwide will lead to greater personal responsibility for child support payments among noncustodials.

Nevertheless these conclusions remain very tentative. There is an obvious need to study the labor supply effects of child support reform with larger and more representative samples. Additionally it will be important to analyze more aspects of labor supply, such as the length of unemployment spells, or weeks worked. We have focused on one important summary measure--annual work hours. But it may be that decomposing that measure would lead to a different perspective.

REFERENCES

Garfinkel, Irwin et al. (1988). Evaluation Design for The Wisconsin Child Support Assurance Demonstration. Institute for Research on Poverty. Madison, WI. June.

MacDonald, Maurice and McMahon, Margaret. (1989). The Impact of Immediate Withholding of Child Support Payments on The Labor Supply of Wisconsin Noncustodial Parents. Institute for Research on Poverty D.P. No. 897-89. Madison, WI. December.

THE SHADOW PRICE OF TIME:
AN EMPIRICAL MODEL INCORPORATING INVOLUNTARY UNEMPLOYMENT

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Based on Heckman's work, this study suggests a three equation model to incorporate involuntary unemployment into the estimation of shadow price of time. It finds that the estimated reservation wage rate is positively related to the number of hours worked, and it shows an inverse U shape over an individual's life cycle. Moreover, the price of time is higher for mothers with young children than for those without young children. The findings are insensitive to alternative measures of dependent variables.

It has long been recognized that individual decisions on whether to work, how many hours to work, and how much to consume are all affected by the shadow price of time. In the last three decades(1955-1984), female wage rates rose at the rate of 6.5 percent per year and from 1972-1986, female labor force participation rates increased markedly at the rate of 1.6 percent annually. Many studies have investigated the impacts of this phenomenon on household consumption and found a close relationship between the price of time and consumption.

A major question is how to measure the price of time empirically. Heckman (1974) suggested using a two equation system to estimate the shadow prices of time for the employed and for nonworkers. An important assumption underlying his approach is that hours of work can be freely adjusted; hence, everybody can achieve his/her equilibrium in the labor market. In reality, the hours of market work are not completely free to adjust, and the labor market does not clear due to downward stickiness of offered wages, market fluctuations, and other legal constraints.

Based on Heckman's model, therefore, the present study suggests an empirical model of estimating the price of time with involuntary unemployment and underemployment incorporated. The shadow prices of time, or reservation wage rates, are estimated separately for husbands, wives, and nonmarried males and females, using the 1983 wave of Survey of Consumer Finances. A two stage procedure is conducted to correct for sample selectivity. Section 1 introduces Heckman's two equation model and discusses a three equation empirical model incorporating involuntary unemployment. Section 2 examines the data and specifies the suggested three equation system. Section 3 deals with the sample selectivity problem. In Section 4, empirical estimates of the reservation wage rates are presented and discussed.

THEORETICAL MODEL

Theoretically, the shadow price of time is defined as the marginal rate of substitution (MRS) between leisure and consumption (with the price of consumption goods as a numeraire). Intuitively, it is the wage rate one would ask as a compensation for giving up one more hour of leisure. Thus, the shadow price of time is the reservation wage rate, or asked wage (these terms will be used interchangeably hereafter). On the other hand, the offered wage, or market wage rate, is the amount a person could earn if he/she chooses to work.

A rational individual will work if and only if the offered wage is greater or equal to the reservation wage rate. If the hours of work can be freely adjusted, an individual's equilibrium can always be achieved by working until the reservation wage rate equals the offered wage. Using this framework, Heckman (1974) estimated the shadow price of time for the employed and nonworkers by a two equation system. This approach is problematic since, in reality, the hours of market work are not completely free to adjust and there are involuntary unemployment and underemployment in the labor market. Hence, the following three equation model is used to incorporate "overwork" and "underwork" into the empirical model of reservation wage rates.

Assuming that hours of work are not freely adjustable in the short run, disequilibrium in hours worked exists. Thus, we have:[2]

(1.1) $W^o = X\alpha + e_1$ Offered wage equation

(1.2) $W^r = Z\beta + H^d\delta + e_2$ Asked wage equation

(1.3) $H^d = H^o - H^u$ Desired hours of work

Where W^o = the market (offered) wage rate;
X = a vector of variables reflecting an individual's market productivity and labor market demand;
W^r = the reservation wage (asked wage);
Z = a vector of variable determining one's home productivity and tastes for market work;
H^d = desired hours of work;
H^o = observed hours of work and

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[1] Visiting McNamara Fellow at The World Bank. This study is one part of the author's unpublished Ph.D. dissertation. The author is very grateful to her advisors at Cornell University, Dr. W. Keith Bryant, Dr. Robert Avery, Dr. Tom Davis, and Dr. Maureen O'Hara, for their helpful comments and suggestions. All the errors are the author's responsibility.

[2] This section follows the notations given in Zick and Bryant (1983).

$H^u > 0$ unwanted hours of work if the person is overworked;

$H^u < 0$ unobtainable hours of work if the person is underworked or involuntarily unemployed.

"Overwork" and "underwork" are two dis-equilibrium cases. Overwork can be defined as the hours of work where the individual's MRS between leisure and consumption is greater than the offered real wage. Underwork (including involuntary unemployment) can be defined as the hours of work where the individual's MRS is less than the real wage. Intuitively, the probability of overwork and underwork depends on 1) factors reflecting one's taste for market work, 2) factors determining one's market productivity and 3) market demand factors affecting the probability of being employed if one chooses to work. These are equivalent to X and Z in the above equations with one exception: It is assumed here that the current unemployment rate in the local labor market is not immediately observable to individuals. Thus, define:

$$(1.4)\ H^u = (X' + Z)\,\tau$$

where $X' = X$ excluding current unemployment rate.

Substituting (1.4) into (1.3), (1.3) into (1.2), and rearranging, the new equation for reservation wage rate becomes:

$$(1.5)\ W^r = Z\,(\beta - \tau\delta) + H^o\delta - X'\tau\delta + e_2$$

At desired hours of work H^d, W^o is equal to W^r. Equating (1.1) and (1.5), and solving for H^o, we get a reduced equation for H^o:

$$(1.6)\ H^o = 1/\delta\ (\ X\alpha - Z(\beta - \tau\delta) + X'\tau\delta + e_1 - e_2)$$

Once (1.1) and (1.6) are estimated, it is possible to calculate all the coefficients in (1.5) and predict the reservation wage rate for everyone including the overworked and underworked.

DATA AND SPECIFICATION ISSUES

Data Set

The data set used in this study is the cleaned version of the 1983 Survey of Consumer Finances prepared by Robert B. Avery and Arthur B. Kennickell. It contains detailed information on household assets and liabilities, income and wage rates, employment status, and household demographics from 4,103 households. In the estimation, 3,387 households from the area-probability cleaned sample were used.[3] The cleaned-sample 1983 weight constructed by Avery and Kennickell was used throughout the estimation.[4]

Specification of the Three Equation System

Previous studies found that, first, the reservation wage rate is positively related to the number of hours worked, which is consistent with the diminishing MRS. Second, the reservation wage rate is affected by a person's household productivity and taste for working, which is, in turn, influenced by his/her education, experience in household work, and demographic characteristics. In addition, the presence of young children affects their mothers' tastes and raises the reservation wage rate substantially. Third, the offered wage is positively related to the number of years of schooling and labor market experience. Fourth, offered wage is also affected by environmental factors reflecting labor market demand, such as the unemployment rate.

Based on previous studies, the three equation system in this study is specified as follows. First, the **offered wage** is determined not only by an individual's market productivity but also by the labor demand in the local market. Assuming that labor demand can be roughly reflected by the average wage rates offered to manufacturing and retailing workers in the county, unemployment rate for the county and regional dummies, then the **net offered wage equation** (1.1) is expressed as:

$$\begin{aligned}(2.1)\ &\ln(\text{NETWG}) = a_0 + a_1\,\text{SCHOOL} + a_2\,\text{HIGHSCHL}\\ &+ a_3\text{COLLEGE} + a_4\,\text{AGE} + a_5\,\text{AGESQ} + a_6\text{HEALTH}\\ &+ a_7\text{YREXP} + a_8\text{NJOBS} + a_9\text{INSMSA} + a_{10}\text{MANUWG}\\ &+ a_{11}\text{RETAILWG} + a_{12}\text{NEAST} + a_{13}\text{NCENTR} + a_{14}\text{SOUTH}\\ &+ a_{15}\text{UNEMP}\end{aligned}$$

Here, the dependent variable is the natural logarithm of the hourly wage rate net of income tax. Information from 1982 Individual Income Tax Returns (USDT,1984) is used in the adjustment.[5]

Second, the **reservation wage rate** of an individual depends on his/her home productivity, tastes for work, and hours worked. Home productivity is assumed to be determined by one's human capital stocks and household characteristics. One's taste for work can be roughly reflected by variables such as number of children, presence of young children under six, exogenous income of the household, spouse's wage rate (if married), race, and etc.[6] Variables reflecting labor demand in the local market also enter this equation (through H^{U}), except for current unemployment rate (by assumption). Thus, the net reservation wage rate equation can be empirically formulated as:

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[3] The supplemental high-income sample was not used. To prevent biased estimates by influential observations, 278 high income outliers were deleted from the area-probability sample.

[4] For details on the imputation and construction of the sample weights, see Avery and Kennickell (1988, p.9-10).

[5] First, average excess itemized deductions for each income bracket are calculated. Taxable income of each household is computed using the Adjusted Gross Income minus personal allowances and average itemized deductions. Second, 1982 income tax for each household is calculated according to the household's filing status and 1982 Tax Rate Schedules (p.142). Third, the gross hourly wage rates for an individual, calculated by dividing the labor income by total hours worked in 1982, are adjusted by (1 - MTAXR), with MTAXR as the marginal tax rate given in the above Schedules.

$$\begin{aligned}
&(2.2)\ \ln(HNTWG)=b_0 + b_1\,SCHOOL + b_2\,HIGHSCHL\\
&+ b_3COLLEGE + b_4\,AGE + b_5AGESQ + b_6HEALTH\\
&+ b_7NEXOGINC + b_8NTWGSP + b_9NKIDS + b_{10}YKID{<}6\\
&+ b_{11}WHITE + b_{12}YREXP + b_{13}\,NJOBS + b_{14}INSMSA\\
&+ b_{15}MANUWG + b_{16}RETAILWG + b_{17}NEAST + b_{18}NCENTR\\
&+ b_{19}SOUTH + b_{20}\,HRWK
\end{aligned}$$

Equating (2.1) and (2.2) and solving for observed hours of market work, HRWK, yields:

$$\begin{aligned}
&(2.3)\ HRWK = c_0 + c_1\,SCHOOL + c_2\,HIGHSCHL\\
&+ c_3COLLEGE + c_4\,AGE + c_5\,AGESQ + c_6HEALTH\\
&+ c_7NEXOGINC + c_8NTWGSP + c_9NKIDS + c_{10}\,YKID{<}6\\
&+ c_{11}WHITE + c_{12}YREXP + c_{13}\,NJOBS + c_{14}INSMSA\\
&+ c_{15}MANUWG + c_{16}RETAILWG + c_{17}NEAST + c_{18}NCENTR\\
&+ c_{19}SOUTH + c_{20}\,UNEMP
\end{aligned}$$

The equation for the net reservation wage rate (2.2) can be identified so long as at least one variable in X is not in (2.2). The current unemployment rate is chosen as the only identifying variable by assumption. Thus, after the estimation of equation (2.1) and (2.3), one can use the estimated coefficients to calculate the coefficients of (2.2) and predict the reservation wage rates for everybody in the sample.[7]

CORRECTIONS FOR SAMPLE SELECTIVITY

Using the logarithm of the market wage rates as the dependent variable in estimating the reservation wage rate creates a potential sample selection problem, since the observed distribution of wage rates is a truncated distribution, conditioned on the choice of working or not working. The estimated coefficients may be biased if one estimates the reservation wage rate equation by OLS, using only the observations for which the market wage rate exists.

To correct for the sample selectivity, Heckman's two stage procedure is conducted. In the first stage, probit equations on the choice of working or not working are estimated separately for husbands, wives, and nonmarried males and females. Due to the space limit, only equations for husbands and wives are presented in Table 1 and 2, respectively.

Findings show that schooling is positively related to the probability of work, and is significant for three out of four equations. Age, age squared, and health status are highly significant, and have expected signs. Among the taste shifters, exogenous income and net wage rate of spouse are negatively related to participation, and are very significant. Number of children and presence of young children under six suppress the labor force participation of husbands, wives and nonmarried females, but have little effect for nonmarried males. The probability of participation is higher if the respondent has more full-time working experience and does not shift between jobs. The local unemployment rate has the expected negative signs consistently across all equations. Generally speaking, the precision of estimated Probit equations is good, in terms of both the log likelihood ratio as well as the consistency of the estimates across the equations.

FINDINGS ON RESERVATION WAGE RATES

In the second stage of the estimation, equations for offered wage (2.1) and hours worked (2.3) are estimated and presented in the second and third column of each table, respectively. The equations are estimated using OLS on all working samples, with the Mills ratio from the probit analysis included.

Equations for Offered Wage and Hours Worked

In the equations for offered wage, the effects of schooling on offered wage are positive and significant across equations, with the rate of return from one year of schooling ranging from 3.7 percent to 5.8 percent. The "kinked" effect of college education to offered wage exists, and is significant only for husbands and wives, whereas no such effect is found for high school education. Age and age squared have the expected signs, and are significant across equations, which indicates the existence of a non-linear relationship between offered wage and age. Health status, full-time working experience and number of full-time jobs held prior to 1982 are significant determinants of offered wage. The unemployment rate has the expected negative signs only in the equations for husbands and nonmarried females. In the equation for wives, the coefficient turns to positive after the tax adjustment. The problem may be caused by adjusting the wage rates of both husband and wife by the same marginal tax rate (due to the lack of information on filing status). The effects of average local wage rates are found positive whenever the coefficient is significantly different from zero. The Mills ratio is significant only in the equations for wives and nonmarried females, indicating that the sample selectivity is not a big problem for males in general. Overall, the equations are estimated with precision, in terms of both the consistency of estimates across equations, as well as the adjusted R^2 which ranged from .2597 to .2914. However, the precision of the offered wage equation for nonmarried males is relatively poor.

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[6] Wage rate of the spouse enters this equation since first, it reflects past decisions on marriage sorting. Second, it is a proxy for the relative market productivity of the husband and wife. Exogenous income includes incomes independent of labor supply decisions. It is a summation of asset income, child support and alimony, and other incomes. Public assistance, such as unemployment compensation, AFDC, and pension benefits are not included because they are endogenous.

[7] The estimated coefficients of unemployment rate in (2.1) and (2.3) can be used to identify b_{20}, i.e. $b_{20} = a_{15} / c_{20}$. Then, all the coefficients in (2.2) can be calculated.

In the equations for hours worked, the effects of age and age squared are consistent and significant across groups, whereas schooling has positive effects for married groups but negative effects for nonmarried groups. The "kinked" effects of college education to hours of working is significantly higher for males (both married and nonmarried) than for females, which suggests that males are more committed to market work than females, given that both have college education. The two working experience variables are found to be important determinants of hours of working, whereas the health status has little effect. One interesting finding is that the effects of spouses' wage rates are consistently negative and significant on hours worked, ranging from -28.3 (for husbands) to -31.8 (for wives), which suggests that a one dollar increase in the husband's net wage rate would suppress the wife's labor supply by 31.8 hours if she is working. The presence of children younger than six depresses the labor supply by 40 to 232 hours, although the sign for nonmarried females is positive. Generally speaking, equations for hours of working are estimated with less precision than offered wage equations.

Predicted Reservation Wage Rates

Using the estimated coefficients in the offered wage and hours of working equations, one can calculate all the coefficients of the reservation wage equation. The calculated coefficients are presented in the fourth column of each table. Reservation wage rates for husbands, wives, and nonmarried males and females are then predicted using these calculated coefficients. The following discussion will be focused on the predictions.

As shown by Figure 1, Figure 2 and Table 3, the predicted reservation wage rates have some expected features. **First, the predicted reservation wage rates for the household head is positively related to the number of hours worked in 1982**. Figure 1 shows the weighted means of market wage rates, net reservation wage rates and gross reservation wage rates for household heads grouped by their number of hours worked in 1982. The market wage rates remain almost constant over all groups, whereas the reservation wage rates increase as the number of hours worked increases, with the gross reservation wage rates rising much faster than the net reservation wage rates. **The price of time for nonworkers and unemployed, then, is the reservation wage rate when the hours of work are zero.** Let $W^r(0)$ represent the reservation wage rate when the hours of work equal zero. As shown in Table 3, $W^r(0)$ is lower for household heads than for spouses, which makes intuitive sense since a higher price of time is expected for mothers with children.

Second, the reservation wage rates have an inverse U shape over an individual's life cycle, as shown by Figure 2. This implies that an individual's price of time is cheaper as he/she enters the labor market, gets more expensive in his/her peak years of work, and declines drastically in retirement. This suggests an answer for the puzzling question of how retired people measure their price of time: **The price of time for a retired person is the reservation wage rate when the hours of work equal zero, $W^r(0)$.** Here, $W^r(0)$ is higher than zero, but much lower than the reservation wage rate when the individual is working. Note that $W^r(0)$ for younger nonworkers is different from the $W^r(0)$ for retired people, because of their differences in age, working experience, health status, and market demand. This can be shown by the mean reservation wage rates for the group aged 75 and over, which is lower than that of the group with zero hours of work.

In the last part of Table 3, predicted reservation wage rates for working/nonworking spouses with/without young children are presented. Clearly, with the working decision given, **the price of time for spouses with young children is higher than that for those without young children**. However, no clear conclusion can be reached on the relative reservation wage rates for working and nonworking spouses.[8]

The same set of equations are also estimated using the gross wage rate rather than after tax wage rates as the dependent variable, with the results not presented here. Comparing the two sets of equations, there is little difference in the signs and magnitudes of the estimated coefficients, except for the sign of the coefficient for unemployment rate in the equation for spouse. This suggests that the estimated coefficients are insensitive to the measurement of dependent variables.

One must be cautious in interpreting these results, since there are problems in the methodologies used in this study. For example, the adjustment procedure for income tax is not

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[8] Findings show that working spouses have higher prices of time only if one looks at the gross reservation wage rates (column 4). The problem may be caused by the unexpected negative sign of the computed coefficient for hours of working, b_{20}, which is in turn caused by the adjustment procedure of income tax.

Table 1 Net Wage Rate Equations for Husbands: Estimated Using the Two-Stage Three Equation System

	Probit N=2024	OLS N=1326	OLS N=1326	Calculated
	Prob (WG>0)	ln(NETWG)	HRWK	ln(HNTWG)
CONSTANT	-2.08*	.3955	1159.39	-.4438
SCHOOL	.042	.0367*	3.81	.0340
HIGHSCHL	-.035	.0006	-17.93	.0136
COLLEGE	.261*	.1394*	118.62*	.0536
AGE	.157*	.0164*	44.94*	-.0161
AGESQ	-.002*	-.0003*	-.85*	.0003
HEALTH	.658*	.0508*	100.13	-.0216
NEXOGINC	-.004		1.60	-.0012
NTWGSP	-.039*		-28.30*	.0205
NKIDS	-.055*		-23.16	.0168
YKID < 6	-.360*		-97.72*	.0707
WHITE	.129		29.32	-.0212
YREXP	.551*	.0206*	30.20*	-.0012
NJOBS	-.759*	-.0119*	-31.73*	.0111
INSMSA	.243*	.0545	-16.06	.0661
MANUWG	-.029	.0162*	14.03*	.0060
RETAILWG	-.055	.0384*	6.69	.0336
NEAST	.183	.0685*	-85.26	.1302
NCENTR	.170	.0243	-51.13	.0614
SOUTH	.103	-.0261	-56.54	.0149
UNEMP	-.002*	-.0005	-.67	
HRWK				.0007
MILLS		.0235	3.96	
L.Likelihood Ratio	862.29			
Adj. R^2		.2597	.2104	

* Indicates the coefficient is non-zero with 95% confidence.

Table 2 Net Wage Rate Equations for Wives:

	Probit N=2024	OLS N=1223	OLS N=1223	Calculated
	Prob (WG>0)	ln(NETWG)	HRWK	ln(HNTWG)
CONSTANT	-3.289*	.3043	738.51	.5025
SCHOOL	.097*	.0376*	23.91*	.0440
HIGHSCHL	.018	.0396	-73.02	.0200
COLLEGE	.116	.1911*	22.56	.1971
AGE	.155*	.0199*	43.54*	.0315
AGESQ	-.002*	-.0004*	-.69*	-.0006
HEALTH	.523*	.0279	74.60	.0479
NEXOGINC	-.009*		.76	.0002
NTWGHD	-.042*		-31.80*	-.0085
NKIDS	-.054*		-3.20	-.0009
YKID < 6	-.337*		-40.15	-.0108
WHITE	.125		16.74	.0045
YREXP	.645*	.0313*	18.85*	.0364
NJOBS	-.137*	-.0366*	-19.73	-.0419
INSMSA	-.069	.0076	36.55	.0174
MANUWG	.021	.0079	-1.55	.0074
RETAILWG	.016	.0397*	47.24*	.0523
NEAST	.015	-.0505	-17.02	-.0551
NCENTR	.028	-.0998*	26.77	-.0926
SOUTH	-.022	-.1266*	28.40	-.1190
UNEMP	-.0014	.0002	-.65	
HRWK				-.0003
MILLS		.1795*	-47.54	
L.Likelihood Ratio	919.98			
Adj. R^2		.2914	.1740	

* Indicates the coefficient is non-zero with 95% confidence.

Figure 1
Predicted Gross and Net Reservation Wage Rates
for the Household Head by Hours Worked in 1982

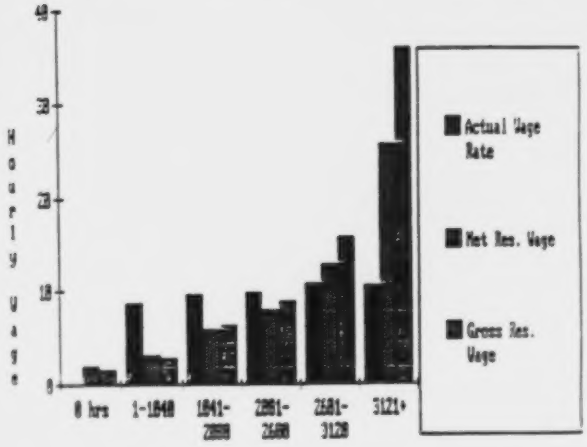

Figure 2
Predicted Gross and Net Reservation Wage Rates
for the Household Head by Age Groups

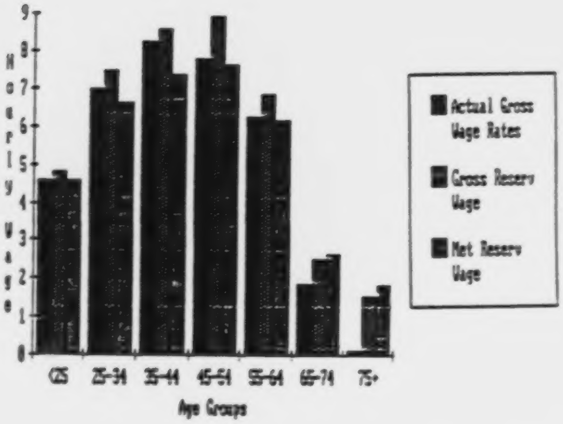

Table 3 Predicted Reservation Wage Rates by the Two-Stage
Three Equation System: Comparison by Groups

	NETWGHD Net ave. hr. earning for head	HNTWGHD Predicted Net Reserv. Wage Rate for head	HRWGHD Gross ave. hr. earning for head	HATWGHD Predicted Gross Res. Wage Rate for head
Hours Worked by Head in 1982				
0 hour	0.00	2.88	0.00	1.71
1-1040 hours	6.99	3.78	8.65	2.92
1041-2080	7.21	5.61	9.62	6.34
2081-2600	7.29	6.93	9.78	8.89
2601-3120	7.64	9.80	10.75	15.63
3121 +	7.16	16.53	10.58	36.59
By Age of Head				
Under 25	3.79	4.64	4.62	4.87
25-34	5.32	6.06	7.03	7.50
35-44	6.11	6.36	8.26	8.59
45-54	5.62	6.64	7.81	8.93
55-64	4.61	5.81	6.32	6.87
65-74	1.40	3.15	1.86	2.53
75 +	0.12	2.42	0.14	1.54
	NETWG for spouse	HNTWG for spouse	HRWG for spouse	HATWG for spouse
By Presence of Young Children <6 and Working Status				
With Ykid<6				
& not working	0.00	6.75	0.00	2.15
& working	6.64	5.91	9.33	7.58
Without Ykid<6				
& not working	0.00	6.63	0.00	2.19
& working	6.52	5.42	8.67	6.78

flawless, and may have caused measurement errors in the estimation. The sample used is, clearly, non-random. The deletion of some high income samples may be necessary to prevent the impact of influential observations, but may have created some unknown selectivity bias. Therefore, no inference should be made to the behavior of the general population.

CONCLUDING REMARKS

In conclusion, the results of this paper indicate clearly the complexity and number of factors determining the shadow price of time of individuals. The approach suggested here introduces disequilibrium in the hours worked into a framework developed by Heckman. The underlying assumption of the model is less restrictive, and the model can be applied generally to population groups including "overworked" or "underworked." The empirical results are mostly consistent with those of the previous studies, with some interesting findings in the measurement of reservation wage rates of the unemployed, the retired, and mothers with young children. Although there are problems in the methodology used in this study, it can be considered as a useful exercise attempting to incorporate involuntary unemployment into Heckman's model. For the purpose of future research, it might be useful to explore a model with an identifiable equation of "unwanted hours of working" and predict H^u, although such an estimation may require better data. In addition, there is much room for further study of the determinants of reservation wage rates for specific groups of people, such as the retired and mothers with young children.

Appendix I.
Descriptions of Variables used in Wage Equations

Variables	Descriptions
ln(NETWG)	Logarithm of the net hourly wage rate obtained by dividing annual labor income by hours worked per week and weeks worked, and then multiply by (1-MTAXR).
ln(HNTWG)	Logarithm of the net reservation wage rate predicted.
HRWK	Total number of hours worked by respondent in 1982.
SCHOOL	Total number of years of schooling for respondent.
HIGHSCHL	=1 if respondent is a high school graduate; =0 otherwise.
COLLEGE	=1 if respondent is a college graduate; =0 otherwise.
AGE	Age of respondent on last birthday (asked in 1983).
AGESQ	=$(AGE)^2$ of respondent.
HEALTH	=1 if respondent reports excellent/good health,=0 otherwise.
YREXP	Years of full-time working experience up to 1982.
NJOBS	Number of full-time jobs held up to 1982.
NEXOGINC	Net exogenous income in 1982 obtained by summing up asset income, child support, alimony, gifts, and other income, and adjusting by (1-ATAXR).
NTWGHD	Net hourly wage rate for household head (husband if married).
NTWGSP	Net hourly wage rate for spouse (wife).
NKIDS	Number of children currently living with respondent.
YKID<6	=1 if the youngest child is under six; =0 otherwise.
WHITE	=1 if respondent is white; =0 otherwise.
INSMSA	=1 if respondent lives in SMSA; =0 otherwise.
MANUWG	Average annual wage of local manufacturing workers.
RETAILWG	Average annual wage of local retailing workers.
UNEMP	Unemployment rate in 1982 for the county.
NEAST	Regional dummy variables.
NCENTR	
SOUTH	
MILLS	Mills ratio obtained from the probit analysis.

REFERENCES

Avery, R. B. and A. B. Kennikell (1988), "1986 Survey of Consumer Finances: Technical Manual and Codebook." Board of Governors of the Federal Reserve System, August.

Becker, G. (1975), Human Capital, Second Edition, Part I. New York: Columbia University Press: 1-146.

Becker, G. (1965), "A Theory of the Allocation of Time." Economic Journal, No.75: 493-517.

Ben-Porath, Y. (1967), "The Production of Human Capital and the Life Cycle of Earning," Journal of Political Economy, 75: 352-365.

Bryant, W. K. and Y. Wang (1989), "American Consumption Patterns and the Price of Time: A Time-Series Analysis," forthcoming, Journal of Consumer Affairs, 1990.

Ghez, G. and G. Becker (1975), "The Allocation of Time and Goods over the Life Cycle." New York: National Bureau of Economic Research.

Gronau, R. (1974), "Wage Comparisons, A Selectivity Bias," Journal of Political Economy, 82(6): 1119-1114.

Heckman, J. (1974), "Shadow Prices, Market Wages, and Labor Supply," Econometrica, 42(4): 679-694.

U.S. Department of the Treasury, Internal Revenue Service, (1984), Statistics of Income -- 1982 Individual Income Tax Returns, U.S. Government Printing Office, Washington, DC.

Zick, C. D. and W. K. Bryant (1983), "Alternative Strategies for Pricing Home Work Time," Home Economics Research Journal, 12(2): 133-144.

COMMENTS ON THE PAPERS BY JOESCH, MACDONALD AND MCMAHON AND WANG

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ABSTRACT

This paper summarizes the comments the author made as a discussant at the Economics Resources and Non-Household Work Session.

INTRODUCTION

The three papers presented in this session make significant contributions to the analysis of labor supply and public policy. These are important areas since redistribution policies have been estimated to reduce labor supply by approximately four to six percent (Haveman 1988). Further developing measures and techniques to analyze the effect of programs--and the measuring of the effects of new programs--has a large practical value in assessing the costs and benefits of redistribution programs, enacted or proposed.

COMMENTS ON JOESCH'S PAPER

Joesch's paper focuses on the institutional details of a particular program. Often the complexities of most programs are ignored and reduced forms are estimated without regard to the actual parameters of policy programs. Joesch compares the results of this approach with an approach which incorporates all the complexities of a particular AFDC program in Colorado. In doing this the statistical model she uses must deal with the non-linearities and indeed non-convexities of the budget constraint the program creates. Going through this complicated procedure provides more realism and is definitely a worthwhile exercise but Joesch should provide some way of examining the relative fits of the simplified model and the maximum likelihood estimation. Discovering either that this procedure provides more efficient or indeed qualitatively different results, or that it does not would be an important finding for researchers who desire to evaluate similar programs.

However, some caution should be used in interpreting the reported price of child care elasticities. Welfare programs have a two stage effect on labor supply. First, they affect participation rates. Second, given a woman is participating, they affect the extent of that participation (i.e. hours worked). Since Joesch's sample includes only workers she is only estimating the second effect. (Note this point is distinct from the possibility of selection bias, a problem that Joesch points out herself.) Therefore, if one is interested in the total effect of the program on labor supply, Joesch's estimates understate the effect of the program.

COMMENTS ON MACDDONALD'S AND MCMAHON'S PAPER

MacDonald and McMahon offer some of the first evidence of the labor supply effects of enforced child support, a program that is gaining wide acceptance.

They find that, unlike previous studies of men's labor supply, there is no income effect from non-labor income. This is not surprising, however. Recently divorced men have suffered a large decrease in assets. Their wealth being diminished, it is not surprising that the anti-work influence of non-labor income would be lessened, even to the point of having no effect.

One way to improve the estimates of the income effect of the size of the child care award would be to control for the length of time it must be paid. For example, a $3000/yr award that goes to a 16 year old amounts to only $6000 in total nominal payments. A similar award granted to a 10 year old adds up to $24,000. These two $3000 awards should have different sized income effects.

MacDonald and McMahon are concerned about sample selection bias resulting from (a) the fact that men are not randomly selected for enforced withholding, and (b) there is not a 100% response rate in the PS survey. They therefore estimate two "lambdas," or mills ratios, to correct for this problem but find them to be highly collinear. They use this fact to only include one lambda in the final analysis.

It is not surprising that two potentially related forms of selection biases that are controlled for with mills ratios constructed from probits that use the exact same set of explanatory variables are highly correlated. Furthermore, I believe it is wrong to leave out a "correction" for a form of bias you believe to exist. Therefore I think it would be more proper to treat the two forms of unobserved heterogeneity as being bivariately distributed and estimate one bivariate mills ratio, or lambda, to be used in the estimation.

However, I am not sure this is necessary for two reasons. First, like the authors suggest themselves, the survey non-response problem can be solved by generating weights. This would be much easier than estimating a bivariate mills ratio. Second, and more fundamentally, I am not sure they need to worry about the first form of selection bias. If one is concerned about the effects of the program, and if under the operation of the program judges are going to assign enforced withholding to only a subset of the population, then one should only be concerned with the effects of the program on that sub-population.

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In other words, by correcting for assignment selection, the authors are trying to generate estimates of the effect of the program on a randomly selected NC. If the program were to be universally applied this would be appropriate. If NC's are not going to be randomly selected to have enforced withholding, then it is not necessary.

COMMENTS ON WANG'S PAPER

Wang's paper attempts to generalize Heckman's method for estimating a person's reservation wage by allowing the observed hours to differ from the desired hours. Her findings are consistent with past work but since her method is more general they are arguably more accurate.

In order to obtain estimates of the parameters in the reservation wage equation Wang's method necessitates leaving out one explanatory variable from the hours equation that is included in the wage equation. She assumes that the unemployment rate is unobserved and thus can identify all the parameters in the wage equation.

Her paper would be much strengthened, however, if she could make a convincing argument as to why this variable is excluded from the hours equation. Since the identification of the wage equation parameters rest completely on this exclusion, the exclusion of the unemployment rate should be well justified. Alternatively, Wang could try excluding other explanatory variables to see how robust her results are to alternative specifications of the hours equation.

CONCLUSION

This was an excellent session. The papers were on important topics and very thought-provoking. I look forward to reading any revised versions.

REFERENCES

Haveman, Robert (1988). Starting Even: An Equal Opportunity Program to Combat the Nation's New Poverty. Simon and Schuster

REACHING AND TEACHING THE LOW INCOME CONSUMER
(WORKSHOP SUMMARY)

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Educators can have a positive impact on the lives of low income consumers by teaching basic resource management skills, according to representatives of the Cooperative Extension System (CES). They outline three keys to successful programs: 1) understanding the audience; 2) developing strong agency linkages; and 3) expanding outreach through volunteers.

THE CHALLENGE

During the 1980s, despite their best efforts to meet basic needs, many consumers have fallen desperately behind. Young families have fared worst. Between 1973 and 1986, the poverty rate doubled among young families with children. Median income fell by 26 percent (Children's Defense Fund, 1988), which would have been worse without the influx of mothers into the labor force.

Low income consumers wake up daily to poor nutrition, the inability to obtain health care, substandard housing, educational deprivation, and inadequate incomes. People are this country's greatest resource. To neglect the needs of the low income consumer, especially those rearing tomorrow's workers, leaders, and parents, could bring a 21st century marked by deeper societal problems than we see today.

THE RESPONSE

Lizbeth Schorr (1989) wrote in her book *Within Our Reach: Breaking the Cycle of Disadvantage*, "Reaching out to the hard-to-reach, helping the hard-to-help represent not a visionary idea but a practical solution to an urgent national problem." The Cooperative Extension System (CES), a nationwide educational network linking the expertise of federal, state, and local governments, is in the business of helping people help themselves.

With some exceptions (e.g., Expanded Food and Nutrition Education Program), Extension has placed most emphasis on reaching middle income families. Yet, the CES has the ability and resources, though some reallocation may be needed, to be a leader in breaking the cycle of disadvantage for some low income consumers.

KEYS TO SUCCESSFUL PROGRAMMING

The purpose of this workshop was to investigate three keys to successful programming with low income consumers--understanding the audience, developing strong agency linkages, and expanding outreach through volunteers. Where appropriate, successful Extension programs are summarized. Comments are applicable for any community-based education program.

Understanding the Low Income Consumer

The criticism of programs directed to low income audiences that is heard time and again is the programs fail to address the complex and diverse needs of the people they are designed to help. The needs of the audience are misunderstood, forgotten, disregarded, or assumed. Understanding the audience must be the major concern in the planning, development, and implementation of any program effort for low income consumers.

Critical attention must be paid to preparing the teachers who will make direct contact with the audience. They must understand how the economic, sociological, and psychological factors effect behavior. For example, a common comment is "I don't understand their (the low income consumer's) obsession with brand names." Doesn't advertising constantly assert that name brands assure the owner of social acceptance? Sensitively to the cultural climate, literacy and education levels, and current as well as ongoing socio-economic factors are essential to effectively reaching low income consumers .

The Importance of Agency Involvement

One way to gain a better understanding of the low income consumer is to work with agencies that target this portion of the population. One Extension program, the Budget Box, is implemented throughout Georgia by working with existing agencies. The program helps families meet basic expenses through month-to-month budgeting and takes into account all expenses may not be met with existing income.

Extension personnel provide materials and train agency caseworkers who then work directly with clientele. Agency personnel have both knowledge and access to the audience. Though agency expertise for working with families exists, there is a real need for educational programs designed to meet the needs of the families they reach. In some cases, the educational program can ultimately lessen the case load.

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Expanding Outreach Through Volunteers

Extension has a long history of reliance on volunteers reaching peers. The recruitment and training of middle income volunteers to provide educational assistance to low income families is a more recent phenomenon. In the area of money management/consumer skills, the University of California Cooperative Extension began the first large scale project (known as Money Sense) to work primarily with low income families in 1987. In 1989, a volunteer program called Money Management Advisors was piloted by Washington State University Cooperative Extension.

In the Washington project, the volunteers are trained to provide hands-on activities in budgeting, food shopping, credit use, managing a checking account and buying wisely. Short-term results of the pilot efforts in two counties showed 22 volunteers reaching 200 low income families and individuals within three months of training. Of those, 50 percent began spending plans and 80 percent reported reduced debt.

REFERENCES

Johnson, Clifford M., Sum, Andrew M., and Weill, James D. (1988). Vanishing Dreams: The Growing Economic Plight of America's Young Families. Washington, DC: Children's Defense Fund.

Schorr, Lisbeth. (1989). Within Our Reach: Breaking the Cycle of Disadvantage. New York: Anchor Books, 1989.

AGE-RELATED CHANGES IN EXPENDITURE PATTERNS

Young Sook Chung, University of Illinois at Urbana-Champaign[1]
Frances M. Magrabi, University of Illinois at Urbana-Champaign[2]

This study examined expenditure patterns of the elderly using data from the 1986 Consumer Expenditure Survey. Multiple regression results indicate that age is a significant factor in expenditures. Compared with younger households, elderly households spent more on utilities, health care, and domestic services and less on clothing and services, shelter, and entertainment. No difference was found in expenditures on food at home and food away from home between elderly and younger households.

INTRODUCTION

The effect of population aging on consumption is becoming an increasingly important area of concern to economists and public policy makers. The elderly population is increasing not only in absolute numbers, but as a share of the total population in the United States. From 1980 to 1985 the number of households with reference person age 65 and over increased by 27 percent, more than three times the rate of increase in the population as a whole. By 2000, there are expected to be over 22 million such households, over 23 percent of the total population (Bureau of Census, 1986).

The income distribution in the United States is changing, and some of the changes have favored the elderly, who have, as a result, experienced a higher rate of increase in real household income, adjusted for family size, than other age groups; thus the elderly today are, on average, at least as well off as other age groups and will continue to be so during the next several decades (Hurd, 1989a). Therefore, if expenditure patterns of the elderly differ from those of the young and their resources do not decline relative to those of other age groups, the shift in the age distribution of the population is likely to result in a significant change in expenditure patterns of the United States population as a whole. The relative share of expenditure by elderly consumers will also increase due to the fact that the proportion of elderly consumers is rapidly increasing.

Although the elderly have on average experienced economic gains, substantial numbers have inadequate resources. Hurd (1989a; 1989b) identified two groups of elderly that should be objects of concern: the many "near-poor", whose incomes are just high enough to disqualify them for social programs but not high enough to cover high-expenditure health-care needs, and elderly widows, who have an especially high rate of poverty.

It is important for us to recognize differences between expenditures of the elderly and the young in order to establish appropriate public policies to help elderly consumers. If changes occur without being predicted and thus without appropriate public policies, shortages of goods and services needed by the elderly may occur and their prices rise to a point that needed commodities are unaffordable to many. The welfare of the young consumer as well as the elderly consumer may decline. The purpose of this study was to compare consumption expenditure patterns of elderly (65 or older) and younger households (under 65), taking into account other socio-economic factors associated consumer behavior.

PREVIOUS RESEARCH

One interesting hypothesis concerning consumer behavior of the elderly and young was stated by Drucker (1979). He argued that elderly consumers would have a higher average propensity to consume than younger consumers and thus the income transfer payments from young workers to older retired workers under the social security program would increase aggregate consumption and would cause demand-pull inflation.

To test above hypothesis, Fareed and Riggs (1982) used the 1972-73 Consumer Expenditure Survey data, and calculated consumption functions for an elderly group (65 years and older) and a younger group (less than 65 years old). They found that average propensity to consume was almost the same for the two groups and concluded that income transfer policies under the social security program are not inflationary. They also calculated consumption functions for food, shelter, clothing, transportation, and medical care. For food, clothing, and medical care, marginal propensity to consume (MPC) was higher for the younger consumer group. For shelter and transportation, MPC was higher for the older group.

Chen and Chu (1982) investigated consumer spending patterns among different age groups, using the 1973 sample of the Survey of Consumer Expenditure. Age differences in consumption patterns existed for most items, even when family income was held constant. The aged spent more on utilities and medical care and less on clothing, house furnishings and equipment, automobile purchases and operations, and recreation than nonaged households. In most income classes, the aged spent proportionately less on food than younger aged groups. They concluded that the high budget share of food among the aged simply reflects their low income.

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Heslop (1986) tested the effects on expenditures of the elderly and near elderly of age vs. cohort vs. period in which the expenditures were made. Heslop found that period and cohort effects were more important and age less important than might be expected.

Sexauer (1979) examined the effect of demographic shifts on food away from home expenditure using two different sets of cross sectional data: the 1960-61 Bureau of Labor Statistics (BLS) and U. S. Department of Agriculture Survey of Consumer Expenditure and Incomes and the 1972-73 Consumer Expenditure Survey data by the BLS. Age (under 65 vs. 65 and over), family size, and urbanization were found to be negatively related to food away from home expenditure, but income, education, having a working wife, and sex were positively related. Sexauer concluded that demographic shifts have a significant effect on long-run changes in consumer demand.

Blaylock and Smallwood (1986) tested the relationship of income and other household characteristics to changes in the level of expenditure. Data were taken from the 1980 Consumer Expenditure Survey. They found that age and income were the most significant determinants of food expenditure. Elderly households spent more on many food items than young households, except for spending on food away from home. Other studies of food expenditure also found relationships to age (Axelson and Penfield, 1983).

Using data from the 1972-73 Consumer Expenditure Survey, Dardis, Derrick, and Lehfeld (1981) tested the determinants of clothing expenditure. They found that clothing expenditure was positively related to income, education, and family size. Households headed by non-blacks spent more than households headed by blacks. Expenditure on clothing was negatively related to age. Norum (1989), who analyzed 1980-81 data, found that clothing expenditure of elderly households was lower than those of other age groups.

Junk, Jones, and Kessel (1988) examined home energy costs for two different groups of elderly people who were living in Idaho and Utah. One group of the elderly was sampled in 1983, and the other group of the elderly was sampled in 1986. The latter group of the elderly were predominantly females with incomes below the poverty level, and were regarded as a low income group. They found that the low income group averaged higher expenditures on home utilities and fewer energy-savings features than the 1983 group. Also, the low income group averaged a higher percentage of income for home energy. They concluded that those at the lower income level of the elderly were likely to suffer more from high utility costs than do others. Elderly people who were living in newer homes had lower home energy costs than elderly people who were living in older homes.

All of the studies reviewed found that age is one of the most important determinants of consumer expenditures. A conclusion of the researchers was that population aging will have significant implications for future consumption patterns for the economy as a whole.

THE DATA

The data were taken from the 1986 Consumer Expenditure Survey, conducted by the Bureau of Census under contract to BLS. The Consumer Expenditure Surveys utilize national probability samples of households, designed to be representative of the United States population. The study design provides for a rotating panel survey with quarterly interviews in which each sample household is interviewed once per quarter for five consecutive quarters, with the first interview being used only for bounding purposes. One-fifth of the households are replaced each quarter in the sample.

The 1986 interview survey data tape contains the reports of 4,007, 5,814, 5,774, 5,869, and 5,905 sample households for each of five consecutive quarters from the first quarter of 1986 through the first quarter of 1987, respectively. The sample used in this study consisted of households who were interviewed for four quarters during this period and for whom, therefore, total annual expenditure could be reconstructed by summing their expenditure over the four quarters. After the adjustment, the sample consisted of 1,717 households.

VARIABLES

The unit of analysis was the household. The household can be operationally defined on the basis of shared tasks of production and consumption, and whether or not members of the group are linked by kinship or marriage, or are coresident. The BLS uses consumer unit (defined as a group of persons living together who are related or who pool expenses) as the unit of analysis (BLS, 1989). The term "household" will be used to mean consumer unit. A reference person, defined by BLS as the first member mentioned by the respondent when asked who owned or rented the home, was identified in each household. It is with respect to this person that the relationship of other household members was determined.

The dependent variables were the total amount spent in the survey year on food at home, food away from home, clothing and clothing services, shelter, utilities, house furnishings and equipment, health care, transportation, entertainment, and domestic services. There were no zero expenditure households in this study.

It should be noted that expenditure may be defined, operationally, in two different ways: as amount obligated or as cash outlay. The BLS defined expenditure as amount obligated, i.e., initial purchase price, regardless of portion of the purchase price financed or loan status. Payments for previous credit purchases were not included. For the purpose of this study, cash outlay was needed. The BLS definition of expenditure was not appropriate, especially for vehicle expenditure because purchase price of vehicles greatly exceeds cash outlay in the survey period in most cases. Therefore an estimate of cash outlay for transportation was substituted for the BLS figure. Expenditure for vehicle purchase was recomputed to include: (1) purchase price of vehicles purchased for cash in current year, (2) downpayment for vehicles purchased on credit in current year, and (3) installment payments made on vehicles that had been purchased on credit. Estimated mean transportation expenditure under the two definitions are:

Reference person	Amount obligated	Cash outlay
Total sample	$4,831	$4,065
Younger households	5,824	4,893
Elderly households	2,450	2,248

Socio-economic variables are essential to the study of consumption because they serve as proxies for tastes and preferences of consumers. For example, consumers may spend more for health-care services and less for clothing as they age, not because the prices of these items vary with the age of the consumer, but because the consumer's needs and preferences change with age. The following socio-economic factors were used as explanatory variables in this study: age, education, sex, marital status, race, employment status, and household size. Total expenditures was also included as proxy for permanent income in the model. Table 1 provides a detailed description of the independent variables.

ANALYSIS

Multiple regression analysis was used to estimate the relationship between consumption expenditure and socio-economic variables. The model was as follows:

$$E_i = c_0 + c_1X_1 + c_2X_2 + c_3X_3 + \ldots\ldots + c_8X_8 + e$$

where E_i was consumption expenditure for ith category and X_1 to X_8 were independent variables pertaining to household i.

If the coefficient of age was significant, consumption expenditures were regarded as varying with age. One comment conclude that such differences are the result of the aging process. Heslop (1986) found that period of birth and period in which the expenditures were made had a impact on expenditures than did age. The F-value was used to determine the significance of the R^2.

RESULTS

Household Characteristics

Compared with younger households, elderly households had a lower mean total expenditures. Younger households averaged more members than elderly households, i.e., three persons for young households compared with about two persons for elderly households. Compared with younger households, elderly households had a lower educational level. Twenty six percent of young reference persons had a college degree or more compared with about 10 percent of elderly ones. Young households were less likely than elderly ones to be female-headed.

TABLE 1. Sample Characteristics

Variables	Mean or Percentage		
	Young (n=1328)	Elderly (n=389)	Total (n=1717)
Age	77	23	100
Total expenditure	$22,700	$14,120	20,756
Household size	3.0	1.9	2.7
Education:			
Less than college	73.7	90.5	77.5
College or more	26.3	9.5	22.5
Sex:			
Male	72.6	59.1	65.9
Female	27.4	40.9	30.5
Marital status			
Unmarried	33.7	49.6	37.3
Married	66.3	50.4	62.7
Race:			
Non-white	14.5	11.8	13.9
White	85.5	88.2	86.1
Employment status			
Not-working	13.9	82.8	28.7
Working	86.1	17.2	71.3

Thirty-four percent of young reference persons were unmarried, which included divorced, separated, widowed, and never married, compared with half of elderly ones. Nearly nine-tenths of the elderly were of the white race. This was also true of young households. In most elderly households, the reference person was not-working, either because not currently employed (14 percent) or retired (69 percent), while 86 percent of young reference persons were employed.

The annual mean expenditures of elderly and younger households are summarized in the table:

Variables	Young	Elderly	Total
Food at home	$1,260	$1,954	$2,527
Food away from home	1,260	640	1,119
Clothing & services	1,397	591	1,215
Shelter	4,770	2,338	4,219
Utilities	1,850	1,562	1,785
Health care	1,019	1,783	1,192
Domestic services	411	348	397
House furnishings and equipment	947	556	858
Transportation	4,893	2,422	4,333
Entertainment	1,324	486	1,134

Except for expenditures on food at home and health care, young households averaged higher in each consumption category than did elderly households. Expenditures on clothing and services and entertainment of young households were nearly triple that of elderly households.

Results of Regression Analysis

Food at home and food away from home. The results of regression analysis are presented in Table 2. Age over 65 was not significantly related to expenditures on food at home and food away from home. Food at home and away expenditures were positively related to total expenditures. Household size and being married were positively related to food at home expenditure, but negatively related to food away from home expenditure. Being employed was negatively and being a member of the white race was positively related to food at home expenditure, but employment status and race were not significantly related to food away from home expenditure.

Clothing and services. Age over 65 was negatively related to expenditure on clothing and services, indicating that elderly households spent less than younger households. Expenditure increased with total expenditures and were higher if the reference person was female.

Household utilities. Elderly households spent more on utilities than did younger households. Expenditure increased with total expenditures and household size, and were higher if the reference person was married, unemployed, and female. Race and education were not significant.

Shelter. Age was negatively related to shelter expenditure, indicating that, when other factors were held constant, young households spent more than did elderly households. Total expenditures, education, and sex were positively, and household size and race were negatively related to shelter expenditure. Marital status and employment status were not significant.

House furnishings and equipment. Age was not significant. There was a significant and positive relationship between total expenditures and expenditure on household furnishings and equipment. Household size, education, and sex were also significant. Marital status, employment status, and race were not significant.

Health care. Compared with young households, elderly households averaged higher expenditures for health care. Total expenditures was positively related to health care expenditure. Except for age and total expenditures, all other variables were not significant.

Transportation. Age was not significant, suggesting that elderly households spent as much on transportation as did younger households. Total expenditures and being employed were positively related to transportation expenditure. Marital status had a negative sign, indicating that married households averaged lower transportation expenditure compared with unmarried households. Education and sex were significant and negative.

Entertainment. Age was negatively and total expenditures was positively related to expenditure on entertainment. Other variables were not significant. This implies that age and total expenditures were the primary factors determining expenditure on entertainment.

Domestic services. Age was positively related to expenditure on domestic services, indicating that elderly households spent more on domestic services than did younger households. Total expenditures, education, and sex were positively related to expenditure on domestic services. Household size, marital status, employment status, and race were not significant.

DISCUSSION

Whether or not the consumer was age 65 or over was found to be a significant factor in determining consumption expenditures of the households surveyed in 1986. The impact of age varied with type of expenditure.

Previous studies found that age was positively related to expenditure for food at home but negatively related to expenditure for food away from home (Sexauer, 1979; Axelson and Penfield, 1983; Blaylock and Smallwood, 1986). This study found no difference in food at home and food away from home expenditure between elderly and younger households after total expenditures, household size, and other factors were taken into account. This may be due to the fact that

TABLE 2. Regression Results on Expenditures for 1,717 Consumers

Independent Variables	Food at Home	Food Away From Home	Clothing/ Services	Utilities	Shelter
Age over 65	59.71 (0.77)	-131.91 (-1.59)	-166.40** (-2.15)	98.21* (1.66)	-777.90*** (-3.54)
Total expenditure	46.90*** (22.21)	69.28*** (30.86)	75.04*** (35.87)	35.53*** (22.25)	214.84*** (36.14)
Household size	475.33*** (25.14)	-105.52*** (-5.25)	-8.37 (-0.45)	115.81*** (8.10)	-227.49*** (-4.27)
Married	182.64** (2.54)	-190.99** (-2.50)	-79.34 (-1.12)	268.32*** (4.94)	-52.35 (-0.26)
Employed	-184.43** (-2.52)	-2.07 (-0.03)	46.55 (0.64)	-101.21* (-1.83)	14.04 (0.07)
White race	246.73*** (3.40)	49.38 (0.64)	-33.55 (-0.47)	59.54 (1.08)	-379.50* (-1.86)
Education	-52.51 (-0.84)	87.37 (1.32)	91.06 (1.47)	-13.85 (-0.29)	779.37*** (4.43)
Female-headed	61.13 (0.92)	-203.31*** (-2.87)	224.79*** (3.41)	100.95** (2.00)	602.43*** (3.21)
R^2 (adjusted)	0.57	0.44	0.52	0.40	0.53
F	280.67***	166.96***	234.29***	139.59***	244.67***

Independent Variables	Household Equipment	Health Care	Transportation	Entertainment	Domestic Services
Age over 65	-19.55 (-0.20)	1116.43*** (7.70)	-339.22 (-1.40)	-225.90** (-2.32)	250.28*** (3.21)
Total expenditure	63.42*** (23.69)	50.70*** (12.92)	233.15*** (35.63)	72.12*** (27.37)	26.11*** (12.38)
Household size	-53.48** (-2.23)	-27.30 (-0.78)	-72.49 (-1.24)	-17.65 (-0.75)	10.80 (0.57)
Married	148.15 (1.63)	83.47 (0.63)	-458.92** (-2.06)	-10.11 (-0.11)	42.10 (0.59)
Employed	-110.95 (-1.20)	-71.66 (-0.53)	375.83* (1.66)	34.68 (0.38)	96.07 (1.32)
White Race	6.81 (0.07)	135.23 (1.00)	-118.82 (-0.53)	125.10 (1.38)	7.69 (0.11)
Education	-180.21** (-2.28)	-156.32 (-1.35)	-698.80*** (-3.61)	-73.89 (-0.95)	169.43*** (2.72)
Female-headed	220.54*** (2.61)	-105.32 (-0.85)	-999.36*** (-4.84)	-41.33 (-0.50)	184.56*** (2.78)
R^2 (adjusted)	0.30	0.14	0.52	0.40	0.13
F	90.37***	35.17***	234.75***	143.18***	31.36***

Figures in parentheses are t values
*Significant at 0.10 level
**Significant at 0.05 level
***Significant at 0.01 level

it used more recent data and thus sampled from a different cohort than the earlier studies. The discrepancy may also reflect changes in the availability and convenience of meals in community centers for the elderly.

Dardis et al. (1981), Chen and Chu (1982), and Norum (1989) found a negative relationship between clothing expenditure and age. According to the findings of this study, elderly households also spent less on clothing than did younger ones. One possible reason for lower clothing expenditure of the elderly are reduced mobility, retirement, change in leisure activities, and perhaps a reduced interest in clothing.

The relationship between shelter expenditure and age was tested in some previous studies, and researchers found the same result as in present study, i.e., younger households averaged higher expenditures for shelter than did elderly households (Chen and Chu, 1982; Fareed and Riggs, 1982; Brown, 1988). Younger households spend a large amount of their income on housing and many are renters because according to Brown (1988), housing costs have increased dramatically since 1974. Younger households were less able to purchase a home of given standards in 1987 than young households were of 15 or 20 years previously. Many elderly households owned their homes and were thereby insulated from the housing cost inflation of the later 1970s and early 1980s. Brown concluded that for these households, rising housing prices implied increased wealth in terms of equity in their homes.

Few studies have examined the relationship between age and utility expenditure. Those studies, as did the present study, found that elderly households spent relatively more on utilities than did younger households (Chen and Chu, 1982). Little attention has been given to the problems of poor elderly households with high utility costs. Some elderly people are being forced to reduce the amounts previously spent on other necessities in order to pay home utility costs (Junk et al., 1988).

Elderly households, especially those who own their house, spent more on utilities than younger households, perhaps because they spent more time at home both during the day and evening. In addition, elderly people are generally less able to endure extremes of temperature and have less mobility than young people, so their heating, air-conditioning, lighting, and cooking expenses should be larger. The high expenditure spent on utilities by elderly households may alternatively be attributable to the higher rate of home ownership among the elderly. Many renters have some utilities, such as water and electricity, provided as part of the rental agreement. Also, if the housing occupied by the elderly was larger or older and, therefore, less energy-efficient than the housing occupied by younger households, utility expenditure might be higher. In fact, more than half of elderly Americans live in dwellings constructed before 1939, and a significant number of poor elderly households live in substandard housing that has moderate or severe physical problems (Junk et al., 1988).

Like previous studies (Chen and Chu, 1982; Fareed and Riggs, 1982), the present study found that the elderly spent relatively more on health care than did the young. Physical health generally deteriorates with age; therefore, medical needs of elderly people are generally greater than those of young people.

In spite of the fact that most elderly are not employed and therefore would be expected to have more leisure time than younger consumers, elderly households were found to spend less on entertainment than the young. This may be due to changes in type of leisure activities, favoring home entertainment or low-cost group activities over more active forms, such as attendance at sports or cultural events or travel.

Elderly households spent more on domestic services than did younger households. The purchase of domestic services is affected not only by the need for the service but by the availability of resources to pay for the services. In a study of home services for the dependent elderly, Soldo (1985) found that almost all of the elderly strongly prefer to maintain independent households and they generally perceive nursing homes as a last resort. Those elderly who have enough resources to purchase home services are able to maintain their own independent households. This suggests the mitigating effects of income and the preference of the elderly for private support services when they possess the economic means to purchase them. However, if they are unable to do so and are chronically disabled, they may seek dependent support networks, such as nursing homes and informal support supplied by family or friends. Thus, both family composition and income are significant factors explaining the living arrangements of the elderly.

SUMMARY AND CONCLUSIONS

Of the expenditure examined, utilities, health care, and domestic services were positively related to being elderly. Expenditures on clothing and services, shelter, and entertainment were negatively related, while no significant relationships were found between membership in the elderly group and expenditure for food at home, food away from home, house furnishings and equipment, and transportation.

The findings of this study indicate that elderly consumers are different from young consumers. Population aging is likely to change aggregate consumption patterns and significantly affect the kinds and amounts of future consumer expenditure in the United States. The exact nature of the changes will depend on trends in income level and distribution and on trends in other demographic variables related to expenditure, as well as prices and market-availability of commodities needed by the elderly. Relationships of complementarity and substitution among commodities may also have an impact.

To establish appropriate consumer policies to promote the well-being of consumers, policy makers need knowledge based on empirical data concerning the differing patterns of consumption expenditure of elderly and young consumers, and the effects of socio-economic and demographic factors on consumption expenditure among the elderly and the young. The findings of this study suggest that welfare economic policies should not be uniform for elderly and young consumers, but should be diversified to accommodate the different consumption patterns of the elderly and the young.

REFERENCES

Axelson, M. L. and M. P. Penfield (1983). "Factors Associated with Food Expenditures of Elderly Persons Living Alone," Home Economics Research Journal. 12 (No. 2): 228-236.

Blaylock, J. R. and D. M. Smallwood (1986). U.S. Demand for Food: Household Expenditures, Demographics, and Projections. Washington, DC: Economic Research Service, U.S. Department of Agriculture. Technical Bulletin No. 1713.

Brown, H. (1988). The State of the Nation's Housing. Joint Center for Housing Studies. Cambridge, MA: Harvard University.

Chen, Y. P. and K. W. Chu (1982). "Household Expenditure Patterns: The Effect of Age of Family Head," Journal of Family Issues. 3 (No. 2): 233-250.

Dardis, R., F. Derrick, and A. Lehfeld (1981). "Clothing Demand in the United States: A Cross-Sectional Analysis," Home Economics Research Journal. 10 (No. 2): 212-221.

Drucker, P. F. (1979, December 18). "Old Consumers vs. Young Producers," The Wall Street Journal.

Fareed, A. E. and G. D. Riggs (1982). "Old-Young Differences in Consumer Expenditure Patterns," Journal of Consumer Affairs. 16 (No. 1): 152-160.

Heslop, L. A. (1986). "Cohort analysis of the expenditure patterns of the elderly," Advances in Consumer Research. 14 (October): 553-557.

Hurd, M. D. (1989a, May 12). "The Economic Status of the Elderly," Science. 244: 659-664.

Hurd, M. D. (1989b). "The Poverty of Widows: Future Prospects," In David A. Wise (Ed), The Economics of Aging (pp. 201-229). Chicago, IL: The University of Chicago.

Junk, V., Jones, J., and Kessel, E. (1988). "Home Energy Costs and the Elderly," Housing and Society. 15 (No. 1): 15-29.

Norum, P. S. (1989). "Economic Analysis of Quarterly Household Expenditures on Apparel," Home Economics Research Journal. 17 (No. 3): 228-240.

Sexauer, B. (1979). "The Effect of Demographic Shifts and Changes in the Income Distribution on Food Away From Home Expenditure," American Journal of Agricultural Economics. 61: 1046-1057.

Soldo, B. J. (1985). "In-Home Services for the Dependent Elderly," Research on Aging. 7 (No. 2): 281-304.

U. S. Bureau of Labor Statistics (1989). 1986 Interview Survey Public Use Tape Documentation.

U. S. Bureau of Census (1986). Projections of the Number of Households and Families: 1986 to 2000. Current Population Reports, Series P-25, No. 986.

THE JOINT IMPACT OF RETIREMENT AND WIDOW(ER)HOOD: IS THERE DOUBLE JEOPARDY?

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This paper describes changes in incomes associated with retirement and widowhood. Of special interest is the influence of husbands' retirement status prior to death on the income status of widows. Widowhood exacted a more severe one-time change in income when husbands had not retired, but that change was no greater on average than the cumulative impact of husbands' prior retirement and then widowhood for other women. Widowers experienced no change in income at their wives' deaths beyond that attributable to the continuation of their own retirement process.

INTRODUCTION

In nations without a national minimum guaranteed income or universal pension system, the loss of earnings either because of retirement or the death of a spouse can be a major source of economic insecurity. In the United States, public policy efforts have sought to reduce the economic hazards associated with retirement and widow(er)hood through a mixture of public income transfers and the regulation of private pensions. The fruits of this public policy attention to the elderly was most evident during the 1970s, a decade of unprecedented inflation during which median incomes of the aged rose faster than did those of the nonaged (Gottschalk and Danziger, 1985; Radner, 1986, 1987). Median real incomes of all family units in the United States increased between 1967 and 1977 by 23 percent; with incomes of families headed by an individual 65 or older rose by 42 percent compared to the 24 percent gain for younger families (Radner, 1986).

Gains during the 1970s in the relative economic position of the elderly led some researchers and policy makers to question the continuing allocation of substantial public dollars to this population. Calls for a reversal of public policy efforts towards the elderly, however, did not fully consider the fact that though the age group on average showed substantial gains in economic well-being, some family groups were less fortunate as they aged. Indeed, Radner (1986) shows the cohort aged 50-64 in 1967 was distinguished from other elderly groups by declining real median incomes between that year and 1982 (when all were 65 or older). These years coincided, of course, with this cohort's passing through the most retirement-prone ages, but it is over these ages that the number of widowed women also grows most rapidly. Holden, Burkhauser, and Feaster (1988) confirm the economic impact of retirement, showing that the hazard of experiencing a sharp fall in income status increases at the time married men first report being retired and in the years following that decision. But, the death of a husband substantially increases the risk of sharp income declines for women.

This paper looks more closely at the sources of changes in income among couples who during this decade experienced at least one of two critical life-cycle events--retirement and widowhood--for which substantial private and public insurance protection had developed. Of particular interest are those couples in which the husband retired and subsequently died. The question asked about them is whether his retirement status prior to his death made a difference to the wife's income status as a widow.

The influence of a husband's predeath retirement status is of interest since Burkhauser, Butler and Holden, (1989) and Holden, Burkhauser, and Feaster (1988) exclude from their sample the one-third of widows whose husbands died prior to retirement. In addition, variables in those studies and also in Smith and Zick (1986) that are interpreted to indicate the level of protection couples provide against widowhood may in fact reflect only the stage of the retirement process at which widowhood occurs. Sorting out the distinction has methodological and public policy implications which are discussed in the concluding section.

METHODS

Data and Sample

The Retirement History Study (RHS) was conducted by the Social Security Administration to study the retirement process. In 1969 a nationally representative sample of married men and unmarried women and men who were 58 to 63 years of age were interviewed as primary respondents. The interviews were repeated at two-year intervals through 1979. When the 1969 married respondent died, the surviving spouse became the primary respondent.

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The RHS subsample selected for this analysis includes all RHS couples who were not poor in 1968 (the first income-reference year of the RHS) and in which the husband was working full time (defined as 32 hours or more per week) when interviewed in 1969 on a job held for at least two years. This sample definition intentionally excludes men who prior to this first interview may have begun the retirement process with a preretirement job change or a substantial reduction in work hours. Holden (1988) has shown that within the two years prior to retirement, a considerable fraction of retirement-age men shift to jobs that, at lower hours or hourly pay, appear chosen because of desired post-retirement part-time or part-year labor force involvement. A misleading view of income change associated with the withdrawal from work, and consequently of the role of social insurance, is obtained if that change is measured from a year after a preretirement employment shift has already taken place.

Our sample consists of 4,437 couples. Of these, 692 husbands and 370 wives died between 1969 and 1979 and their surviving spouses were interviewed in at least one more survey year. These couples (or the survivor) are followed from the beginning of the survey until either the survey ended or both the husband and wife left the survey. Thus the number of years of data varies across couples. The 96 widowers who remarried are treated as censored at their remarriage.

Income Measures

The RHS is a sample of elderly individuals rather than of households. For this reason, the most accurate and detailed data are for the respondent's immediate family (respondent, spouse, and children under 18 years of age). Respondents were asked the combined income of older children and all other household members, but these data are more often missing and erroneously reported. For this reason, the income measure used here is the income received by the couple and their children under 18.

Because the RHS followed wives even after the death of their husbands, the income changes associated with either spouse's death can be evaluated. Income received during the first income-reference year of reported widow(er)hood is adjusted by the full-year estimation suggested by Burkhauser, Holden, and Myers (1986). This adjustment was necessary since when a spouse dies during the income reference year, a survey asking (as did the RHS) only about the income of current household members during that year will underestimate the income available to the new widow during that transition year.[2]

An innovation of this study is the substitution for reported Social Security benefits of actual benefits paid to the respondents, spouses and any beneficiary children, where the latter is available from the Social Security Master Beneficiary Records (MBR) file for each RHS year. Because on average individuals reported a higher benefit, the use of administratively reported benefits may underestimate total income if individuals know their total incomes accurately, but only misreport the amount from each source. On the other hand, Burkhauser, Holden, and Feaster (1988) and Coe (1988) find not only that real incomes fluctuate during the retirement years, but a large share of those fluctuations are due to changes in Social Security benefit amounts. This is surprising given the nature of the Social Security benefit formula and the small percentage of beneficiaries who have earnings beyond the exempt amount. Thus, there is good reason to suspect that the MBR data may provide a better measure of income levels and stability.[3]

RESULTS

Well-being of RHS Couples over the Decade

Table 1 describes changes in median incomes of the RHS subsample over the 1969-1979 survey period. Three marital groups are distinguished. Intact couples are those couples (and their minor children) in which both spouses were alive in all years the family was in the survey. Eventual widows and widowers are those couples in which the death of a husband or wife, respectively, are observed. Each marital group is further distinguished by whether the husband retired at some time or remained working in each interview year.[4] The income measure shown here is the ratio of family income to an equivalency scale which is the official poverty threshold and takes into account changes in prices and family size over the decade.[5]

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[2] The adjustment is the full-year method accomplished by adding to the surviving spouse's income the estimated income (and needs) of the husband or wife during the part of the income reference year that he or she was alive.

[3] The use of actual benefits reduced the number of very large income changes.

[4] Retirement occurred in the first year after 1969 that the husband identified himself as fully or partially retired. For some part-time paid work continued.

[5] The poverty line in 1982, the year to which all dollar figures are adjusted in this paper, was $5,836 for a couple whose head was aged 65 and older, and $4,626 for an elderly person living alone. Appropriate poverty thresholds for younger families and those of different sizes are used. Other equivalency scales might lead to different results. For example, Lazear and Michael (1980) estimated a smaller difference in needs between two- and single-person elderly households and greater absolute poverty rates for both. This implies that this paper's estimates of income-to-needs changes as family size falls are conservative.

Differences across marital and retirement-status groups are striking. Men who never described themselves as retired (cols. 2 and 6) begin and end with higher income-to-needs ratios, even if their wives died. The median income-to-needs of widows of men who did not retire (col. 4) is comparable at the beginning of the survey to that intact couples and eventual widowers. But over time the income-to-needs ratios of retiring couples and widowers and of all eventual widows fall. The median income-to-needs in 1979 of those still in the survey in that last RHS year compared to the ratio in 1969 is less than half for both groups of eventual widows, is about three-quarters for retired widowers and intact couples, but had risen for nonretired intact couples and widowers.

TABLE 1. Median Income-to-needs Ratios: 1969 RHS Couples

Survey Year[a]	Couple Group: Intact Retired	Intact Never	Event. Widows Retired	Event. Widows Never	Event. Widowers Retired	Event. Widowers Never
	(1)	(2)	(3)	(4)	(5)	(6)
1969	3.9	4.1	3.6	4.0	3.5	4.2
1971	3.7	4.1	3.3	3.0	3.2	4.1
1973	3.4	4.4	2.6	2.0	2.8	4.0
1975	2.9	4.4	2.0	1.8	2.4	4.6
1977	2.3	4.5	1.7	1.6	2.2	4.3
1979	2.6	5.4	1.5	1.6	2.2	4.7
10-yr change[b]	0.7	1.2	0.4	0.4	0.7	1.2
N[c]	2,589	729	426	261	315	51

[a] Income is for calendar year preceding survey year.
[b] Change is only for those remaining in sample in 1979.
[c] In 1969.

Differences between the retired and never-retired intact couples confirm the impact for couples of retirement on income security. In contrast, for eventual widows, their husbands' retirement status prior to death appears to make little difference to how well off they are at the end of the survey period—when all were widowed. What is striking in this crude comparison, however, is the apparent relative immunity of men's income status from the influence of a spousal death; at the end of the survey median incomes had fallen by no more than did the incomes of intact couples.

Events Associated with Major Income Changes

The story told by Table 1 is of retirement for men—whether widowered or not—and of widowhood for women. During this decade the average annual gain in median incomes (adjusted for family size) for families of men who remained alive and never reported being retired was comparable to the rate in income growth for nonaged families over this same period (Radner, 1986). But the experience of other couples—those in which the husband retired or died—was quite different. It has been recommended that for middle-income workers to maintain preretirement living standard into retirement, about 65-70 percent of gross preretirement income be replaced in retirement (Schulz, 1985). The median RHS retired couple achieved that goal. But for widows it was most likely that replacement fell far below this targeted level.

Table 2 begins to distinguish the impact of retirement and widowhood for the two groups of couples in which one spouse died. The first panel shows the distribution of couples in which the husbands retired, by the change in income-to-needs from the year before to the first year of retirement. The three groups of couples are similarly distributed; the impending death of a spouse does not appear to lead to a different pattern of change. Intact couples are better off in retirement in part because they begin with significantly higher income-to-needs than do either group of widow(er)ed couples, whose income-to-needs in the two years are not significantly different from each other.

The second panel of Table 2 shows the distribution of eventual widow(er)s by changes in income-to-needs from the last income-year of marriage to the second year of widow(er)hood. The comparison is made to the second year of widowhood to take account of time required for estates to be settled and survivors to discover and receive survivor benefits from public and private programs.[6]

TABLE 2. Income-to-needs at Retirement and Spouse's Death

Income-to-needs	Intact Families	Eventual Widows	Eventual Widowers
I. Ratio of Year After to Before Retirement			
Below .5	15.4	16.9	17.7
Between .5 & .7	19.2	21.4	21.6
Better than .7	65.4	61.8	60.6
Mean Income-to-needs			
Survey before retire	4.6	4.1*	3.9*
Survey after retire	3.7	3.3*	3.3*
II. Ratio of Second Year After to Before Spouse Death			
Below .5		40.0	15.5
Between .5 & .7		28.2	19.3
Better than .7		31.8	65.2
Mean Income-to-needs			
Second before death		3.5**	3.2
Second survey after death		2.1***	2.7

* Using t-test significantly different from intact couples at .01 level
** Using t-test significantly different from eventual widowers at .1 level.
*** Using t-test significantly different from eventual widowers at .01 level.

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[6] Requiring a second year of widowhood excludes data on women who were widowed between 1977 and 1979, the last year of the RHS. Comparison to the second year of widowhood reduces the difference between widows and widowers; widows do better in that year—consistent with a delay in the payment of survivor benefits—and widowers do worse as their retirement continues.

Although there was no difference in the retirement experience of these two couple groups, the death of a spouse is associated with a different pattern of income decline. Widowers are most likely to experience no or small changes in incomes-to-needs while that ratio for widows is most likely to fall to below half of its prewidowhood level. After the spouse's death, the income-to-needs of widows is far below that of widowers, even though the widows in this panel include those whose husbands never retired (and who were, thus, excluded from panel 1).

Husband's Retirement and the Financial Status of Widows

What continues to distinguish widows from widowers in our society is the greater dependence of the former when married and widowed on the earnings of the spouse. Dependence when widowed arises from the relationship in Social Security and pensions between workers' earnings prior to death and benefits paid to survivors. Social Security survivor benefits are in general equal to those which the deceased husband would have received if alive.[7] Prior to the passage of the Retirement Equity Act of 1984, it was argued that widows were disadvantaged if their husbands died prior to retirement, since it was then easier for pensions to deny a widow any survivor benefits, and studies showed that these widows of nonretired men suffered a larger decline in well-being.[8] However, Table 2 suggested that whether the husband had retired or not did not matter to the income status of the median widow some years after widowhood. Table 3 offers an explanation of this apparent contradiction.

TABLE 3. Income-to-needs by Retirement Status of Husband

Income-to-needs	Husband Retired	Husband Not Retired
I. Ratio of Second Year After to Before Widowhood		
Below .5	25.9	54.1
Between .5 & .7	28.5	29.3
Better than .7	45.6	16.6
Mean Income-to-needs		
Survey before widows	3.2	4.5***
Survey two after	2.0	2.3**
II. Ratio of Second Year After to Last Worked		
Below .5	53.1	54.1
Between .5 & .7	29.8	29.3
Better than .7	17.1	16.6
Mean Income-to-needs		
Survey last worked	4.1	4.5*
Survey two after	2.0	2.3**

*** Using t-test significantly different at .01 level.
** Using t-test significantly different at .05 level.
* Using t-test significantly different at .1 level.

The first panel of Table 3 duplicates the data for widows in the third panel in Table 2, but distinguishes by the retirement status of husbands prior to death. Widows of husbands who have not retired (col. 2) are far more likely to experience a severe change in their income status. Over one-half of this group have an income-to-needs ratio in the second income-year of widowhood that is less than half of that received when last married, compared to only one-quarter of the already retired group.

The second panel of Table 3 looks at the cumulative impact of retirement and widowhood for all widows by comparing income-to-needs in widowhood with income-to-needs in the last year the husband was not retired. That year is the last of marriage for never-retired husbands, but the last before retirement for the other eventual widows. Here the patterns are identical. The single-period double blow of earnings loss and the husband's death is no worse than is the cumulative impact of the separate retirement and widowhood events.

Table 4 takes the analysis one step further by showing changes in income, by source, upon widowhood. All income figures adjust for price and family size changes. Figures in the first panel (which shows the ratio of income-to-needs in the last year of marriage to that when widowed) show only modest changes and consequent greater income stability in all but the "other" income category for widows of retired men. (The decline in earnings is from a small base; in the last year of marriage earnings accounted for only one-third of these couples' incomes.) But for widows of nonretired men, their husbands' death meant not only a larger immediate decline in total income, but a major redistribution of income by source. Dependent upon earnings (their own and their husband's) for over 90 percent of income prior to widowhood, these women as widows drew substantially greater income from OASI and pensions.

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[7] Eligibility rules do not distinguish between male and female survivors. We discuss the case of a wife surviving her husband, since the vast majority of survivor benefits are paid to widows.

[8] Since 1984 the spouse must sign a witnessed agreement when a retiree rejects a joint-and-survivor benefit. However, the GAO finds that most spousal consent forms are difficult to understand and many are misleading (GAO, 1990).

The second panel shows that the combined influence of retirement and widowhood, however, is similar for the two couple groups. Husbands' earnings are replaced by similarly large proportional increases in earnings-related Social Security and pension benefit.[9] Increases in interest or principal withdrawals from assets also provide a form of self-insurance against the impact of earnings loss for both groups.

TABLE 4. Income Changes by Source Upon Widowhood (income adjusted for price and family size change)

Income Source[a]	All Widows	Husband Retired	Husband not Retired
Ratio last year married to second of widowhood			
Total Income	.55	.62	.50
Earnings	.20	.26	.18
Social Security	1.79	1.12	13.94
Pensions/private annuities	1.09	.66	6.55
Interest/Rent	1.83	1.15	2.82
Other Income	1.16	3.00	1.07
Ratio last year worked to second of widowhood			
Total Income	.49	.48	.50
Earnings	.14	.10	.18
Social Security	23.01	40.30	13.94
Pensions/private annuities	5.97	5.58	6.58
Interest/Rent	2.38	1.89	2.83
Other Income	1.35	1.84	1.07

a. Ratios are equal to amount from each source in second year of widowhood to the amount from that source in relevant year of marriage.
Note: Income in each year is adjusted for changes in price and family size.

Earnings Replacement

To summarize the findings of this analysis, Table 5 shows total incomes changes in retirement and widowhood for each couple group and the percent of income replaced by earnings-related insurance. Row 1 shows family income reported in the year prior to the critical event of the husbands' retirement (columns 1, 3, and 5) or the spouses' death (cols. 2, 4, and 6). The widows in column 2 are those whose husbands do not report retirement and who thus experience the simultaneous blows of his retirement and widowhood. Widows in cols. 3 and 4 and widowers experience those events sequentially. Note that all incomes are adjusted both for price and family size differences over time.

All couples are heavily dependent on earned income prior to the husbands' retirement (row 2) and experience a comparable income fall when he retires (17 percent, row 4). Retiring couples have about half of pre-retirement earnings replaced by benefits from Social Security, pensions, and other annuities (last row). It is the widowhood experience that distinguishes eventual widows from the other two groups. When the husband dies after he reported being partially or fully retired (col. 4) the loss in his post-retirement earnings is compounded rather than compensated by a decline in pension income. In contrast, for men, the earnings decline that coincides with the death of a wife (col. 6) exacts no greater toll than that associated with the retirement process. Earnings fall, but are replaced at approximately the same level as at his formal retirement (column 5). For widows who experienced the simultaneous impact and of widowhood of their husbands "retirement" through death and widowhood (col 2), net income and earnings loss is equivalent to that of the two-step process.

CONCLUSIONS

These comparisons across couples during the early retirement-age years show patterns of income change that are not surprising. In a strictly earnings-related retirement system, the loss of husbands' earnings owing either to his retirement and subsequent death or to his death while still employed is likely to result in the same decline in incomes for the survivor. This is a result of the dependence of benefits paid to widows by Social Security and private pensions on the earnings of their husbands. Insurance against widowhood is merely an extension of insurance against retirement rather than a separate form of insurance against a distinct life-cycle event. When a married man retires these programs replace a certain percentage of his earnings; when he dies his survivor will receive a percentage of his retirement benefits even if additional sources of income are lost upon widowhood. When a married individual who is age-eligible for benefits dies prior to retirement any survivor benefit is based on the amount he would have received if alive and in private pensions on the annuity choice he made. While the one-time income shock to the survivor from the death of a nonretired husband may be greater, it is equivalent to what would have been the cumulative effect of his separate retirement and his death. It is only when incomes as a widow are compared to that in the last year of work that the similarity in income protection provided to these two groups of widows becomes apparent.

The methodological importance of this conclusion is its demonstration that the measured impact of widowhood depends on whether retirement occurred prior to the husband's death. For the group of RHS widows examined here, the smaller declines for some were due to the fact that their husbands had already retired rather than to their greater "success" at weathering his death. It is important that studies of income declines among the elderly distinguish those effects due to the retirement-stage at which widowhood occurs from those associated with widowhood itself. Researchers should be careful that the smaller income declines and higher replacement of

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[9] Widows of never retired men are somewhat younger that other widows and therefore less likely to be eligible for survivor benefits (first payable at age 60). This may account in part for the smaller increase in their Social Security benefits.

TABLE 5. Income Changes Associated With Husband's "Retirement"

Income	Int. Cple.	Eventual Widows			Event. Widowers	
Amount/Change	Retire	Both	Retire	Widow	Retire	Widower
	(1)	(2)	(3)	(4)	(5)	(6)
Initial Income[a]	$22,467	$21,754	$20,039	$16,339	$19,091	$14,436
%Earnings	89.8	92.8	92.2	46.6	92.9	37.1
Income Fall[b]	-3,853	-9,698	-3,558	-6,367	-3,120	-1,254
%Fall	17.1	44.6	17.8	39.0	16.4	8.7
Total Earnings Loss	-9,183	-16,685	-8,107	-5,604	-8,677	-4,379
Net Earned-Income Loss[c]	-4,483	-12,749	-4,080	-5,742	-3,852	-2,206
%Replaced[d]	51.2	23.6	49.7	-2.5	55.6	49.6

[a] In the last year of nonretirement for husband.

[b] From initial year to first year of retirement or second year of widowhood.

[c] Sum of change in earnings (including any self-employment income), pension income, and Social Security benefits. Income to both spouses are counted.

[d] Percent of earning income replaced by pensions, Social Security, private annuities.

earnings for widows of retired men not be taken to reflect the greater planning by some husbands for their probable survivor; it is only that some income is already lost, not that these men cared more for their eventual widows' economic well being.

This discussion also helps to explain why the cohort aged 50-64 in 1967 was unique in experiencing a decline in average incomes over the next 15 years. Men in this cohort were at high risk of retirement, but widowhood may also have its greatest impact on economic status during these years when husbands are most likely to die prior to retirement. As couples age together, the events of retirement and widowhood will be separated by increasing numbers of years. It is during the critical retirement-age years (and the period covered by the RHS) that the large income declines experienced by widows of nonretired men contribute most to income changes for the cohort.

These findings suggest a major gap in our income maintenance system. Even after weathering their husbands' retirement, women suffer an additional shock to needs-adjusted income when their husbands die. Pensions are lost; even though pension incomes of eventual widows of nonretired men increase, this represents a decline from the income the husbands would have received if alive. Social Security replaces some fraction of lifetime earnings when the husband retires, but the earnings he continues to receive during retirement are not insured against his death. Our system, based on insuring against the loss in husbands earnings, fails to directly insure the widow's against the loss of postretirement, prewidowhood income.

REFERENCES

Burkhauser, Richard V., Karen C. Holden, and Daniel M. Feaster (1988). "Incidence, Timing, and Events Associated with Poverty: A Dynamic View of Poverty in Retirement," Journal of Gerontology: Social Sciences. 43 (No. 2; March): S46-S52.

_______, J.S. Butler, and Karen C. Holden (1989). "How the Death of a Spouse Affects Economic Well-Being After Retirement: A Hazard Model Approach" Part II of final report submitted to the Social Security Administration.

_______, _______, and Daniel A. Myers (1986). "Marital Disruption and Poverty: The Role of Survey Procedures in Artificially Creating Poverty," Demography 23 (No. 4, November): 621-631.

Coe, Richard D. (1988). "A Longitudinal Examination of Poverty in the Elderly Years" The Gerontologist 28(No. 4, August): 540-544.

Gottschalk, Peter and Sheldon Danziger (1985). "A Framework for Evaluating the Effects of Economic Growth and Transfers on Poverty," American Economic Review, 75 (No.1, March): 153-161.

Government Accounting Office (1989). Private Pensions: Spousal Consent Forms Hard to Read and Lack Important Information GAO.HRD-90-20. Washington, D.C.: GAO.

Holden, Karen C. (1988). "Physically Demanding Occupations, Health, and Work After Retirement," Social Security Bulletin 51(No.11, November):3-15.

_____, _______, and Daniel Feaster (1988). "The Timing of Falls into Poverty after Retirement and Widowhood" *Demography* 25 (No. 3, August): 405-414.

Lazear, Edward and Richard Michael (1980). "Family Size and the Distribution of Real Per Capita Income," *American Economic Review* 70 (No. 1, MONTH): 91-107.

Radner, Daniel B. (1987). "Money Incomes of the Aged and Nonaged Family Units, 1967 -1983," *Social Security Bulletin* 50 (No. 8, August): 9-28.

_______ (1986). "Changes in the Money Income of the Aged and Nonaged, 1967-1983" *Studies in Income Distribution* No. 14. Washington D.C.: U.S. Department of Health and Human Services.

Schulz, James H. (1985). *The Economics of Aging* (third edition). Belmont, CA: Wadsworth Publishing Co.

Smith, Ken R. and Cathleen D. Zick (1986). "The Incidence of Poverty among to Recently Widowed: Mediating Factors in the Life Course." *Journal of Marriage and the Family* 48 (August): 619-630.

THE ALLOCATION OF LABOR TO INFORMAL HEALTH PRODUCTION: HEALTH CARE FOR THE ELDERLY, IF TIME PERMITS*

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This paper examines the impact of family caregiving on the allocation of time between labor market, caregiving and leisure activities. A reduced form regression model is the analysis framework for these simultaneous decisions. The data analysis indicates that the number of caregivers and their assumed responsibilities are significantly related to the caregiving time allocation decision. Alternatively, the leisure and employment decisions are predominantly determined by the financial status of the caregiver and health status of both the caregiver and the impaired elderly relative.

INTRODUCTION

Recent research on health care for the elderly has addressed the role of home health care as a substitute for more expensive and impersonal hospital and nursing home care. However, much of this analysis has focused on market-supplied home services. The home care production activities of informal caregivers, usually family members and friends are seldom examined. These caregivers contribute time that aides in the effective administration and provision of market-supplied home health services. As a result, input costs of market-supplied home health care and out-of-pocket expenditures on medical services are reduced. Nonetheless, when informal caregivers allocate time to home care production, less time is available for labor market activities, household production, child care and leisure.

Informal home health providers have developed diverse systems of family care. Families differ in the number of individuals directly involved in care, as well as in the amount of time contributed to caregiving. The diversity in family caregiving production reflects the opportunity cost of informal care. One of the first steps toward understanding this diversity is a close examination of the factors determining caregivers' time allocation decisions--caregiving hours, labor force participation, household production and leisure decisions.

REVIEW OF PREVIOUS RESEARCH

The existing literature predominantly evaluates home health care as a cost effective alternative to hospital and nursing home care (Vogel and Palmer, 1984; Kramer, Shaughnessy, and Pettigrew, 1985). Input costs of market-supplied home care are carefully defined and assessed. The cost of service providers (wages and salaries), the opportunity cost of renting technological devices for home utilization and the cost of food and housing are the measures of per visit costs of home care. However, assessments of the costs of market-supplied home care seldom include any estimates of the opportunity cost resulting from the use of informal care workers in home service provision. The exclusion of estimates of informal care cost is in part explained by the limited availability of data fostering such analysis.

Research about the diverse informal home health sector is in its preliminary stages. The majority of the research uses small sample surveys to describe the sociodemographic characteristics of caregivers. More recently there have been assessments of informal care teams, primary and supplemental caregivers, and their task assignments (Stephens and Christianson, 1986). Only a few researchers have used multivariate frameworks to examine the determinants of caregiving hours (Moscovice, et al., 1988; Stoller, 1983). To date, only one study has evaluated labor market decisions of caregivers (Muurinen, 1986).

Research describing the sociodemographic characteristics of caregivers and the determinants of caregiving hours suggest the types of opportunity cost experienced in the informal home care sector. For example, using national data, Stone, et.al. (1986) describe caregivers as predominantly females whose average age is 57.3, the young old. While 30.9 percent of caregivers are employed, 8.9 percent withdrew from the labor force to fulfill their caregiving responsibilities. Other caregivers adjusted their time schedules by working fewer hours (21%), rearranging their schedules (29.4%), or taking time off without pay (18.6%).

In a study of New York City caregivers, Cantor (1983) identifies caregivers' rank ordering of activities given up in order to engage in caregiving. The spouse of the impaired elderly patient will first trade leisure time/socializing for caregiving time. Time previously allocated to housework, family members, and employment are the next sources of caregiving time. On the other hand, adult children initially reallocate housework time, leisure/socializing, time with other family members and employment, respectively.

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These data suggestive non-trivial opportunity costs for caregivers.

Caregivers develop informal health care teams, i.e., networks. These networks include immediate family members, residing in or outside the household of the impaired elderly, as well as other relatives, neighbors and friends. As network size increases, caregiving tasks are redistributed from primary to supplementary caregivers (Stephens and Christianson, 1986). While we may suggest that development of the network and task reallocation impacts on the time allocation decisions of caregivers, the literature has not examined these relationships.

Studies of the determinants of caregiving hours use theoretical perspectives exclusive of economics and are generally exploratory. These studies find that women and unmarried caregivers contribute more hours to home care production (Stoller, 1983; Horowitz and Shindelman, 1983). Additionally, labor force participation reduces the number of caregiving hours contributed by sons (Cicirelli, 1984). Finally, these studies have found that the health needs of the elderly (activity limitations) significantly determine caregiving time allocation.

Muurinen (1986) uses a Beckerian theoretical framework to study labor market decisions by caregivers of hospice patients. She examines choices of caregivers facing an impending death of a family member. Her theoretical framework suggests that caregivers are less likely to leave the labor market if they face a high opportunity cost of leaving. Thus, if the dying patient is serviced by a spouse, the spouse is more likely to quit his/her job. While women and older caregivers are also more likely to quit their jobs, those with high income are least likely. Muurinen's hypotheses are supported by her data. Thus, caregivers faced with one of the most stressful home environments are shown to exhibit rational, optimizing decision-making.

Similar to Muurinen's study, this paper uses a household production model as its theoretical base to systematically examine caregivers' joint decisions of caregiving, employment, and leisure hours. The analysis builds on Stephens and Christianson's preliminary analysis of caregiving networks. It provides a perspective on the essential role of the structure of the household's caregiving team (network) as it impacts on the decisions of the individual caregiver. The next sections of this paper present the theoretical model and discuss the empirical results from the reduced form model of caregivers' decisions. The paper concludes with a discussion of the implications for future research and health care policy.

ANALYTICAL FRAMEWORK

The Model

Following standard models of household production (Willis, 1973); Becker & Lewis, 1973), assume a caregiver maximizes utility subject to time and budget constraints:

$$(1)\quad U(X + X_{HC},\ G_{HP} + G_{HC},\ L;\ C)$$

$$(2)\quad T = L + M + H_{HP} + H_{HC}$$

$$(3)\quad wM + V = p_X X + p_C X_{HC}$$ where,

X = market goods; X_{HC} = market purchased home health services; G_{HP} = household produced goods; G_{HC} = informal home care production; L = leisure; C = personal characteristics of the caregiver; T = total available time; M = employment hours; H_{HP} = household production hours; H_{HC} = home care production hours; w = caregiver's wage rate; V = non-wage income; p_X = prices of market goods used in household production; and p_C = prices of market goods used in home care production.

Equation (1) postulates that the caregiver's utility function depends on market goods (X + XHC), household produced goods ($G_{HP} + G_{HC}$), leisure (L), and the caregiver's personal characteristics (C). The caregiver produces informal home care, as well as other household goods, using her time. Constraints are imposed on her household and home care production, (E_{HP}, E_{HC}), respectively.

$$(4)\quad G_{HP} = G(H_{HP};E_{HP})$$

$$(5)\quad G_{HC} = G(H_{HC};E_{HC})$$

The above production functions are quasi-concave, continuous and twice differentiable.

According to the above model, the caregiver demands market goods, household produced goods (including home health) and leisure. Additionally, household produced goods are directly determined by the number of hours allocated to household production. The subsequent analysis assumes that the household's optimal demand for home produced goods and home health care reflect quantities that are feasibly supplied by the household. Thus, the caregiver's utility function is

$$(6)\quad U(X + X_{HC},\ G(H_{HP};E_{HP}) + G(H_{HC};E_{HC}),\ L;C).$$

The caregiver maximizes utility through optimal purchases of market goods and allocation of hours to household production and leisure.

Hypotheses on the Optimal Decision-Making

According to the above model, the determinants of the caregiver's optimal purchase of market goods and allocation of time are the prices of market goods, the price of time, income, taste and household and home care production constraints. Four specific hypotheses from this model will be examined in the empirical analysis:

(1) Price of Market Goods. As the price of market-purchased goods increase, there will be a substitution toward home produced goods. Thus household and home care production hours are hypothesized to increase. Since the price change decreases the caregiver's real wage,

labor market hours are hypothesized to decrease and leisure hours increase.

(2) Wage Rate Effects. The wage rate is the opportunity cost of alternative time uses. Thus, caregivers with high market wages should substitute home care and household production hours for more hours in labor market employment. The net effect on leisure and labor choices depends on whether the substitution effect of the wage increase exceeds the income effect. If so, leisure hours decline and labor hours increase.

(3) Preference Shifters. Age, sex, marital status relative ratings of home health care to nursing home care, education and living arrangements are hypothesized to effect the allocation of hours to caregiving, leisure and labor market activities. As age increases, the caregiver perceives greater benefits of leaving the labor market (Muurinen, 1986). Men are less likely to leave the labor market to contribute hours to home care (Muurinen, 1986). Married caregivers face the responsibility of managing their own households and are less likely to contribute hours to home care (Cicirelli, 1983). If nursing home care is rated superior to home care, less hours may be allocated to home care. Education increases the demand for leisure. Caregivers who live with the frail elderly are expected to demand less leisure (Lang and Brody, 1983).

(4) Production Constraints. The role of production constraints in affecting caregiver's choices has not been examined in the literature. Their role as determinants of a caregiver's derived demand for home care, leisure and labor force participation is further clarified by examining the associated first order conditions for these choices, according to the theoretical model described above. These equations are:

$$(7)\ \text{(home care)}\quad \frac{\delta U}{\delta G_{HC}} \frac{\delta G_{HC}}{\delta H_{HC}} - \frac{\delta U}{\delta G_{HP}} \frac{\delta G_{HP}}{\delta H_{HP}} = 0$$

$$(8)\ \text{(leisure)}\quad \frac{\delta U}{\delta L} - \frac{\delta U}{\delta G_{HP}} \frac{\delta G_{HP}}{\delta L} = 0$$

$$\text{(labor)}\quad - \frac{\delta U}{\delta G_{HP}} \frac{\delta G_{HP}}{\delta H_{HP}} + \lambda w = 0$$

Thus, if the production constraints of home care increase the relative marginal product of home care or increase the relative marginal product of household production, less time will be allocated to the labor market and hours in home care and/or household production will increase. If, on the other hand, the production constraints of home care impose a minimum time constraint on caregivers, more time will be devoted to home care production. Given less total time available for allocation among other activities, the real income of the caregiver declines. Thus, labor and leisure hours decline, assuming leisure is a normal good.

DATA, VARIABLE MEASUREMENT AND ESTIMATION PROCEDURE

The data used in this study are from the National Long-Term Care Survey and National Survey of Informal Caregivers collected by the U.S. Department of Health and Human Services. This survey provides nationally representative data on 1924 caregivers of the impaired, Medicare enrolled, elderly and their networks of care. Caregivers provide services to non-institutionalized elderly when at least one of six activities reflects the patient's health limits: eating, getting in and out of bed, getting around the house, dressing, bathing or getting to or using the bathroom/toilet.

Sample Selection

The present analysis uses a subsample of the survey's caregivers. The subsample includes employed caregivers of the elderly and caregivers who quit their jobs due to caregiving demands on their time. The subsample excludes all caregivers who were unemployed when they initially engaged in home care production, i.e., those who chose to leave the labor market for some reason other than caregiving demands and those who were never employed. This sample selection process was necessary to assess the caregiver's joint decisions of (a) changes in hours allocated to market employment, (b) changes in leisure, and (c) allocation of caregiving hours. The excluded sample does not make decisions regarding changes in hours allocated to market employment. Thus, they are not examined in the subsequent analysis.

Variable Measurement

Table 1 lists definitions of all the independent variables in the regression models. The sample selection procedure and unique measures of the dependent variables require further discussion.

Changes in labor hours are measured by whether the caregiver has faced employment transition. This transition occurs if the caregiver decided to quit a job due to caregiving or if the caregiver takes time off without pay to engage in care production. An employment transition dummy variable equals one if either of these conditions describes the caregiver. Due to the sample selection procedure, the employment transition variable has a value of zero if the caregiver did not change his allocation of time to the labor market when faced with caregiving demands.

Caregiving hours is a continuous variable measured by the hours spent per day helping the impaired elderly. A positive response to the statement, "Taking care of him/her limits my social life or free time," is used to develop a proxy measure of leisure transition. It reflects the caregiver's perception of changes in time available for two types of activities that are the major components of leisure time. It does not provide a direct measure of changes in the caregiver's actual leisure hours. Thus, the measure does not distinguish between the caregiver who reduces leisure by one hour and the caregiver who faces several hours of leisure reduction. The leisure transition variable is dichotomous and equals one if the caregiver perceives limits in social life and free time. Otherwise, leisure transition has a value of zero.

TABLE 1: Independent Variables and Variable Measurement

Variable Name	Variable Measure
Income and Prices of Home Health Care	
Family Income	income (before taxes) of all household members
Medicaid	= 1 if Medicaid Insured
Private	= 1 if Privately Insured
Production Variables (EHC, EHP)	
ADL	# limits in daily activities, including walking, dressing, eating
IADL	# limits in instrumental activities
Substitutes	= 1 if respondent answers yes to the question, "If you are not available to help, is there someone who would do the things that you do?"
Number of Caregivers	# usual caregivers
Health Perception	self perception of health
Preference Shifters	
Age	continuous measure
Sex	= 1 if male
Marital Status	= 1 if married
Rate Home Care Superior	= 1 if evaluate home care as superior to nursing home care
Education	highest grade attended in school
Live With Elderly	= 1 if caregiver lives with impaired elderly

The theoretical model indicates that the caregiver's wage is the measure of the price of time. However, no wage measure is available in the data. Family income is used as a proxy measure. This alternative measure reflects the caregiver's time price if family members equalize their time prices at the margin.

Stephens and Christianson (1986) provide a framework for formalizing the measure of production constraints in informal home care. They suggest that caregivers develop production teams (networks) and caregiving tasks vary according to the composition of the network. Based on the theory of the firm, the size of the firm, the allocation of tasks among workers and the characteristics of the firm's product determine the technological base and efficiency of the firm. Similarly, when the household is perceived as a producer of home care, the technology of production can be specified as

$$(10)\quad EHC=E(N,S,H),$$

where N=the number of workers, S=the degree of worker substitution among tasks, and H=health needs of the elderly relative.

The relationship between these measures and the theoretical hypothesis needs further discussion. The number of workers in the production team is a measure of the ability of any home care worker to specialize in a particular caregiving task.

Specialization leads to increased relative efficiency in caregiving. If a worker has a substitute, a worker of equivalent skill available in the team, the minimum number of hours a worker needs to contribute to production decreases. The health needs of the elderly may reflect factors that either influence the marginal product of hours spent in home care production or impose minimum hours constraints on care. This dual role of the elderly's health status suggests that two separate measures of health status are needed. If the elderly relative needs assistance in performing general tasks, eg., shopping, home care production is similar to household production for the caregiver. Thus, this form of home care activity (providing care for limits in instrumental activities) may increase the caregiver's productivity in household work. On the other hand, if the elderly relative needs assistance in performing physical tasks, eg., eating, dressing, getting in and out of bed, these types of home care activities imply some minimum number of hours of care are needed to maintain the elderly patient's ability to function.

Estimation Procedure

Two of the dependent variables discussed above are dichotomous. Thus a limited dependent variable regression procedure is preferred. A logistic regression procedure was used in the estimation of employment and leisure transition. The determinants of caregiving hours are assessed through use of a log-linear regression procedure, a procedure consistent with a theoretical assumption of a quasi-concave production function.

EMPIRICAL RESULTS

Table 2 presents the log-linear regression estimates for caregiving hours and the logistic regression estimates for employment and leisure transition. These estimates are the reduced form equations for the theoretical model of the analytical framework section. Independent variables reflect measures of the prices of time or goods, caregiving production constraints, household productivity shifters, and preference shifters for time utilization and goods expenditures.

Caregiving Hours

The caregiving hours regression is generally consistent with the predictions of the theoretical model. Production constraints, income and preference shifters are significant determinants of this time allocation decision.

TABLE 2: Reduced Form Model of Family Caregivers' Decisions About Time Allocation

Variables	Care Hours (t)	Leisure Reduc. (t)	Labor Reduc. (t)
Income and Prices of Home Health Care			
Family Income	-0.0387	0.0599	-0.0850
	(-3.37)***	(1.65)*	(-2.12)**
Insurance			
Medicaid	0.0343	-0.2460	0.5789
	(0.43)	(-0.97)	(1.98)**
Private	0.0341	-0.1515	0.0998
	(0.46)	(-0.65)	(0.37)
Production Variables (E_{HC}, E_{HP})			
ADL	0.0458	0.0075	0.2423
	(2.53)***	(0.13)	(3.68)***
IADL	0.0293	0.2029	0.0053
	(1.65)**	(3.53)***	(0.08)
Substitutes	-0.1731	-0.3124	-0.3925
	(-2.22)***	(-1.27)	(-1.39)
Number of Caregivers	0.0412	0.0612	-0.1166
	(1.53)*	(0.71)	(-1.12)
Health Perception			
=1 if good	0.0295	0.4901	0.4989
	(0.39)	(2.05)**	(1.69)*
=1 if fair or poor	0.2201	9.0459	1.3456
	(2.32)**	(3.11)***	(3.94)***
Preference Shifters			
Age	-0.9395	-0.1063	08.1205
	(-1.43)	(-1.21)	(-1.16)
Sex (Male = 1)	-0.1250	-0.6703	-0.7153
	(-1.67)*	(-2.82)***	(-2.38)**
Married	-0.1651	-0.0077	-0.0457
	(-2.22)**	(-0.03)	(-0.17)
Rate Home Care Superior	-0.2003	-0.1178	0.3566
	(-2.53)**	(-0.47)	(1.28)
Education	-0.0118	0.0989	-0.0136
	(-0.97)	(2.55)**	(-0.31)
Live With Elderly	-0.1870	0.2648	-0.0669
	(-2.50)**	(1.13)	(-0.24)
Constant	4.8001	-2.7329	-0.5666
	(4.22)***	(-3.55)***	(-0.65)
N	435	435	435
F	5.55		
χ^2		54.41***	79.04***
R^2	0.13	0.201	0.31

*p<.10 **p<.05 ***p<.01
(One and two tailed test used according to the hypothesis of the theoretical model.)

Income and caregiving hours are inversely related. Thus with higher prices of time, caregiving hours are lower.

Caregiving hours are predominantly determined by caregiving production constraints, i.e., the elderly patient's activity limits, and substitution in work effort. For the reasons indicated above, activity limits have been grouped in two categories, ADLs and IADLs. Previous research has generally grouped these two activity limits as a single measure of activity restriction. ADLs are the number of limits in the ability to eat, walk, use the toilet, etc. These limits are hypothesized to pose minimum hours constraints for caregivers. IADLs are the number of limits in the ability to manage finances, grocery shop, etc., i.e., normal household production activities. A caregiver engaged in these tasks is hypothesized to face the opportunity to increase overall productivity in household production (an opportunity for joint production), as well as provide a needed service. As suggested by the theoretical model, ADLs are positively related to caregiving hours. Additionally, limits in IADLs significantly increase the hours allocated to caregiving, as hypothesized. The differences in the magnitudes of the coefficients for these two variables suggest that they reflect unique influences on caregiving hours.

The structure of the caregiving network is also a significant determinant of caregiving hours. The above theoretical model suggests that as there are more caregivers, each worker specializes in tasks. Thus as the productivity of each caregiver increases, more hours are allocated to caregiving. The empirical results indicate that this coefficient is positive, as hypothesized. The substitution of workers is also vital in affecting the caregiver's time allocation decisions. If a substitute worker is available, the caregiver has greater flexibility in time allocation, i.e., a lower minimum hours constraint faced by the caregiver. In such an environment, caregivers allocate less time to care production.

A caregiver's health perception that is fair or poor rather than excellent will increase the hours allocated to caregiving. Perceptions of health as inadequate may indicate relatively low labor market productivity (Muurinen, 1986). Thus more hours are allocated to the alternative work setting, caregiving.

As suggested by numerous researchers, male caregivers contribute less hours to informal care production than females. Additionally, married caregivers, those rating the quality of informal care as greater than nursing home care and caregivers who do not live with the elderly contribute less hours to caregiving. For married caregivers, time contributed to caregiving competes with family time, family time gaining priority. The negative relationship between perceptions of home care quality and caregiving hours is surprising, yet intriguing. It suggests that the lower the relative rating of informal care to nursing home care, the more time allocated to home care production. This attribute may reflect the caregiver's incentive to compensate for relatively low quality services by providing more quantity.

Employment Hours

Caregivers made significant adjustments in employment hours. Over one-third of caregivers either quit their job or took time off without pay because of caregiving responsibilities. The caregivers' opportunity cost was a significant influence on this decision. The higher the caregiver's income (opportunity cost of employment time), the less likely hours were allocated away from the labor market.

The price of market purchased home care is proxied by health insurance coverage. Medicaid/Medicare insured elderly are more likely than those insured solely by Medicare to have caregivers that reduce employment hours. This conclusion is the opposite of the original hypothesis. Two explanations are possible. First, while Medicaid typically reimburses the full cost of market provided home care services, this reimbursement policy only applies to agencies that accept Medicaid patients. These results are consistent with a conclusion that Medicaid insured elderly perceive a high relative out-of-pocket price of market supplied home health services. Thus, caregiving responsibilities are predominantly placed on family care providers and labor market hours are reduced. A second explanation for the positive Medicaid coefficient is the following. Medicaid coverage produces a wealth effect such that as the price of market goods decreases, the demand for leisure increases; labor hours decline.

Limits in daily activities, ADLs, are significant determinants of the reduction of labor market hours. The more activity limits, the less time available to allocate to labor and leisure activities and the greater the probability of reducing labor market hours. Caregiver substitutes, IADLs, and the number of caregivers insignificantly influence employment hours. However, the coefficient of caregiver substitutes and IADLs are generally consistent with the model's hypotheses.

The results for health perception and employment hours are consistent with the results from the caregiving hours equation. If health is perceived as fair or poor, the cost of withdrawal from the labor market are relatively lower. Muurinen (1986) also observed this behavior for hospice caregivers. Similar to the results found in descriptive studies of caregivers, men are less likely to reduce employment hours.

Leisure Reduction

As predicted, the higher the opportunity cost of leisure, the more likely time will be allocated away from this activity. This result is also consistent with the role of income in the employment reduction regression.

The probability of leisure reduction increases as the IADLs of elderly patients increase. Thus activities that increase the caregiver's household productivity will also increase the opportunity cost of leisure and thus lead to a smaller allocation of hours to leisure. This result was not as predicted. The model predicts that leisure hours are unaffected. The coefficients of the other production constraints have the correct signs, yet are insignificant.

A perception of health as being good, fair or poor increases the probability of leisure reduction. Thus caregivers with the most severe health problems are also the most likely to reduce social activities. Women and those with greater education are more likely to reduce their leisure.

DISCUSSION

This paper has focused on three simultaneous decisions of caregivers to the elderly. The decisions were modeled using a household production framework in an attempt to understand the decision processes of informal caregivers as well as to examine the role of caregiving production constraints in affecting those decisions. The regression results were generally consistent with the theoretical model and suggest several research and policy approaches.

The opportunity cost of caregiving has not been assessed in evaluations that address whether home care is a cost effective alternative for hospital care (Hendrick and Inui, 1986; Kramer, Shaughnessy and Pettigrew, 1985). This paper has focused on one component of the caregiver's opportunity cost (lost employment hours) and identified factors that influence this cost of caregiving. Those most likely to quit their jobs or to take time off from employment are women, low income, those in poor health who service Medicaid/Medicare insured patients with extensive activity limits. Evaluations of the relative cost of hospital, nursing home and market-supplied home health care should include estimates of the opportunity cost for this group. Additionally, the caregiving equation shows a significant relationship between nursing home ratings and caregiving hours, i.e., when relative ratings on nursing homes are low, caregiving hours increase. Thus, appropriate costing should develop numerical valuations of caregiver perceptions of differences in the quality of life in nursing homes and home care settings. If home care is perceived to provide the benefits of higher quality services, the net cost of home care may be lower than previously indicated.

Theoretically modeling and incorporating estimates of the production constraints in a model of caregiving has provided useful insights on the caregiving process. Thus, we can examine the choices of caregivers and the circumstances leading to those choices. Without this framework, the positive coefficient in the caregiving hours regression for the factor, number of caregivers, would seem unusual. On the other hand, this coefficient is consistent with the theoretical interpretation that when caregivers work effectively as teams, each member will contribute more hours. Furthermore, the theoretical modelling implies the role of ADLs and IADLs should be examined separately. Isolating the independent effects of ADLs and further characterizing production constraints by whether there is a substitute caregiver or not, allows an interpretation of the factors that truly impose minimum time constraints on caregivers. The analysis indicates that the latter factor has a larger magnitude of influence on caregiving hours and leads the caregiver to allocate relatively more hours to home care production. Furthermore, caregivers without substitutes are significantly different from caregivers with substitutes in their leisure and employment choices. This preliminary analysis of the role of production constraints suggests that additional study of such factors would further enhance our knowledge of informal caregiving.

A recent Senate bill (S779) was proposed to provide tax deductions for home-care of chronically ill, elderly family members. This paper's analysis of the simultaneous choices of caregivers illustrates the value of such policy.

The results show that low income caregivers allocate more hours to caregiving, are more likely to both leave the labor market and reduce their leisure time. Thus, caregivers with the least financial resources are those who face greater risk of poverty status due to caregiving responsibilities. Financial compensation for these caregivers would alleviate a hardship resulting from caregiving.

A central issue posed by community agencies and others is the development of effective networks for strengthening the capacity of informal caregivers. Caregiving has been found to lead to significant stress in informal caregivers. The results of this analysis provide data that suggest the causes of this stress. While the least healthy caregivers are most likely to reduce their labor time, they also contribute more hours to caregiving and are most likely to reduce their leisure and recreational time. The strains due to leisure reduction and heavy hours contribution by the least healthy caregivers have implications for long run health costs. That is, providing care to the impaired elderly may depreciate the health stock of caregivers. This enhanced depreciation of health implies larger future health care costs for caregivers. These results provide support for the financing of respite services of family caregivers. Such support would be a short run strategy that mitigates long run health care costs.

ENDNOTES

1. The Lagrangian equation for this model is: $U(X + X_{HC}, G_{HP} + G_{HC}, L;S) + \lambda_1 [wM - p_X X - p_C X_{HC}] + \lambda_2 [T-L-M-HHP - HHC] = U(X + X_{HC}, G_{HP}(T-L-M-H_{HC}) + G_{HC}, L;S) + \lambda [wM - p_X X - p_C X_{HC}]$. The latter specification incorporates the time constraint in the utility function, since $H_{HP} = T-L-M-H_{HC}$ and $G_{HP} = G(H_{HP};E_{HP})$. Thus, this one constraint utility maximization model can be solved for the optimal quantities of X, X_HC, L, M, H_HC and λ.

REFERENCES

Becker, Gary and H. Gregg Lewis. (1973). "On the Interaction Between the Quantity and Quality of Children," in: T. W. Schultz, ed., *New Economic Approaches to Fertility: Proceedings of a Conference Sponsored by the National Bureau of Economic Research and the Population Council*.

Cantor, M. H. (1983). "Strain Among Caregivers: A Study of Experiences in the United States," *The Gerontologist* 23: 597-604.

Cicirelli, Victor. (1983). "A Comparison of Helping Behavior to Elderly Parents of Adult Children with Intact and Disrupt Marriages," *The Gerontologist* 23: 619-625.

Corman, Hope, Theodore Joyce and Michael Grossman. (1987). "Birth Outcome Production Function in the United States." *The Journal of Human Resources* 22(3):339-360.

Doty, Pamela. (1986). "Family Care of the Elderly: The Role of Public Policy." *The Milbank Quarterly* 64 (1):34-75.

Heckman, J. J. (1979). "Sample Selection Bias as a Specification Error." *Econometrica* 47 (1): 153-161.

Horowitz, Amy and Lois Shindelman. (1983). "Social and Economic Incentives of Caregivers," *Health Care Financing Review* 5: 25-33.

Kramer, Andrew, Peter Shaughnessy and Mary Pettigrew. (1985). "Cost Effectiveness Implications for Nursing Homes and Home Health Case Mix," *Health Services Research* 20(4): 387-405.

Lang, Abigail and Elaine Brody. (1983). "Characteristics of Middle-Aged Daughters and Help to Their Elderly Mothers," *Journal of Marriage and the Family*: 193-202.

Matthews, Sarah and Tena Rosner. (1988). "Shared Filial Responsibility: The Family as the Primary Caregiver." *Journal of Marriage and the Family* 50: 185-195.

Moscovice, Ira, Guster Davidson and David McCoffrey. (1988). "Substitution of Formal and Informal Care for Community-Based Elderly," *Medical Care* 26: 971-981.

Murphy, Mary. (1987). "The Importance of Sample Selection Bias in the Estimation of Medical Care Demand Equations." *Eastern Economic Journal* 13(1): 19-29.

Muurinen, Jaana-Marja. (1986). "The Economics of Informal Care," *Medical Care* 24: 1007-1017.

Stephens, Susan and Jon Christianson. (1986). Informal Care of the Elderly Mass: Lexington Books.

Stoller, Eleanor. (1983). "Parental Caregiving by Adult Children," *Journal of Marriage and the Family* 45: 851-858.

Stone, Robyn, Gail Cafferata and Judith Sangl. (1987). "Caregivers of the Frail Elderly: A National Profile," *The Gerontologist* 27(5): 616-626.

Vogel, Ronald and Hans Palmer. (1984). *Long-Term Care: Perspectives from Research and Demonstrations*, Washington, D. C.: Health Care Financing Administration.

Willis, Robert. (1973). "A New Approach to the Economic Theory of Fertility Behavior," in: T. W. Schultz, ed., *New Economic Approaches to Fertility: Proceedings of a Conference Sponsored by the National Bureau of Economic Research and the Population Council*.

DISCUSSION: THE ECONOMIC WELL-BEING OF THE ELDERLY

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The three papers presented address subtopics of the economics of aging which may have important implications for public policy. Because each paper concerns a different subtopic, my discussion addresses each paper separately.

Young Sook Chung and Frances M. Magrabi
"Age-Related Changes in Expenditure Patterns"

As life expectancy of the population increases and the baby boomers age, the age distribution of the population is changing. Expenditure patterns may also be expected to change. Each stage of the baby boomer's development seems to bring with it new "fad goods" consumed in large quantities by that generation.

As this generation becomes elderly, predictions of increased demand for certain goods, in particular those with short-run inelastic supply, may be important for two reasons: 1) predictions of change may allow a more timely adjustment of market supply, and 2) if necessary, public policies to facilitate availability of these goods at reasonable prices may be implemented. Examples might include medical care and housing.

To study differences in expenditure patterns of younger vs. older households, Chung and Magrabi have estimated separately a series of ad hoc linear equations regressing expenditure for single categories of goods on a series of socio-demographic variables and a measure of permanent income. In each equation the explanatory variable of interest is age.

Although the empirical analysis appears to be accurate for each single equation, I have two criticisms of the methodology: 1) Although a linear estimation of determinants of expenditures may be quite satisfactory, an appropriate theoretical construct should be presented to justify the empirical work. Several estimable models have previously been developed from classical demand theory and might be considered, for example, Linear Expenditure Systems (LES) or the more recent Working and Leser model.[2]
2) The true model of expenditures across categories of consumption should be an interrelated system where expenditures on the various categories are jointly determined. Therefore, the simultaneity issue must be addressed to prevent bias in the estimates.

In summary, the paper deals with relevant issues regarding changing expenditure patterns as the age distribution of the population shifts. A more sophisticated model based in demand theory and accounting for simultaneity may increase the accuracy of the estimates and provide deeper insights into the exact nature of expenditure patterns.

Karen C. Holden and Richard V. Burkhauser
"The Joint Impact of Retirement and Widowhood"

This paper provides information about the income changes of married couples as they experience two critical life changes--retirement and widowhood.

The findings are consistent with Marilyn Moon's comment that the most economically vulnerable subgroup of the elderly are widows. These findings may provide direction for further refinement of income-related policies.

The study is primarily descriptive in nature with an income-to-need ratio calculated and compared as couples experience the critical life events. My discussion focuses on the income-to-need ratios. The paper should specify whether the income measure employed is gross or net. The possibility that the ratios are sensitive to the income measure used should be explored.

Holden and Burkhauser defined need as the SSA's poverty thresholds. Although this measure may be the only standard available with enough flexibility for the subgroups studied, it may not be a very accurate measure of actual need. The SSA poverty thresholds are criticized for being, at best, a very crude measure and for being outdated in terms of expenditure patterns portrayed.[3]

In spite of these limitations, the study provides insights into the precipitators of income declines for the elderly and offers significant direction for further study. In particular, further study on changing levels of living of the vulnerable group is indicated. Relevant research questions include: Are widows experiencing a decline in level of living? If so, how great is it and how is it experienced? What goods are given up?

The decline in widow's income is the culmination of a much broader societal problem--the financial status and security of women in general. The policy implications of this study may directly involve retirement income policies, but there are many indirect implications as well. Other relevant policy issues include income security for full-time homemakers and comparable worth issues in the labor force.

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[2] Angus Deaton and John Muellbauer, Economics and Consumer Behavior, Cambridge University Press, 1980.

[3] James H. Shulz, The Economics of Aging, 3rd Edition, Wadsworth Publishing Co., Belmont, CA, 1985.

Shelley I. White-Means
"Allocation of Labor to Informal Home Health Care Production"

This paper addresses an issue relevant to the frail elderly--production of home health care by a relative. The paper is well organized and well written. The theoretical model is an extension of Becker's theory of household production. Instead of viewing an individual's utility simply as a function of commodities produced with market goods and time in home production, White-Means incorporates two additional dimensions of time allocation--home health care production and leisure time. Although Becker groups home production and leisure as a single, indistinguishable use of time, it seems reasonable to separate it to gain insights into exactly what is foregone in spending time in caregiving to the frail elderly.

White-Means' hypotheses concerning the determinants of the caregiving, home production, employment, and leisure decisions are well defined and consistent with the theory. Although her empirical findings are not totally consistent with her hypotheses, she is able to provide reasonable explanations for the results in most cases.

I have the following comments regarding her conclusions: 1) She concludes that the caregiving hours equation shows a significant negative relationship between caregiving hours and nursing home ratings; however, the regression results she reports actually show a significant negative relationship between home health care rating and caregiving hours. A result she had earlier presented and discussed. 2) She concludes that the finding that lower income caregivers are more likely than higher income caregivers to leave or reduce market work to provide home health care indicates a need for financial compensation for informal, family caregivers. She indicates support for a Senate bill establishing tax deductions for such activities. A more effective public policy in the case of low income providers might be a tax credit or even a direct subsidy. Either would be more likely than a tax deduction to benefit lower income families.

The White-Means paper is well researched and well written. It provides insight into the especially pressing social concern of support for extended care of frail, elderly citizens.

In conclusion, the three papers address relevant issues and areas of concern regarding aging persons. These studies, together with the relevant bodies of literature in each case, provide information for policy makers and significant direction for further research on the topics of income levels and sources and expenditure needs of the elderly population.

Consumer Education in the 1990's

Bonnie Guiton
Special Assistant to the President for Consumer Affairs

A few months ago I received the following letter:

Dear Government:

It is not fair, that we don't have flying skateboards in Virginia, as sen in Back to the Future 3. I am protesting the unfairness shown to children. Children should wear protective gear on both wheel and flying skateboards. I am six years old, and my Mon says "It's okay.".

Yours sincerely,
Benjamin

The young consumer who wrote that letter, while having a specific complaint, had also been educated, probably by his parents, about the important safety factors related to the use of "flying skateboards," or any skateboard, for that matter. And, in my letter back to him, I reinforced what he had already been told about safety.

Unfortunately, I also had to tell him about the fantasy creations of Hollywood--in this case, that flying skateboards had not yet been invented.

Then, yesterday in california, I woke up to the sound of a news commentator talking about the dangerous effects of some diets. The commentator went on to say that, basically, many of the diets currently available to consumers are safe.

But, health problems do occur when consumers begin a drastic weight loss program without first checking with their doctors--ignoring the advice many diet programs offer--or use the diet without proper supervision.

Perhaps a greater threat than ignorance, however, is those who seek to prey on that ignorance. I am speaking, of course, about unscrupulous individuals who blatantly misrepresent themselves and their weight-loss products.

As I watched the commercials, I thought certainly I would like to melt the fat off my body and tone my muscles while I sleep. But, it sounds too good to be true, and logic tells me the laws of nature just don't work that way.

So how do we pass that healthy skepticism on to consumers? We know that the Federal Trade Commission has been actively pursuing fraudulent weight loss plans since 1926, and is going after the most egregious and potentially harmful schemes, such as diet pills said to work during sleep, mail-order starvation/binge plans, or ear molds that allegedly use an acupuncture-type technique to reduce appetite.

This is just the tip of the iceberg in the dilemma we face as consumer researchers, educators, and advocates. Should we simply provide reading material and advice to consumers, and trust them to use common sense to make their own decisions?

Or, do we assume that most consumers are incapable of making the proper choice, and try to involve a government consumer protection officer in every situation with the authority to make the decisions for them?

These are two extremes of course--because we have learned enough to know that it requires some of both approaches. However, the informed consumer is most likely to be his or her own best guard against hidden dangers of the marketplace. But they must know what those dangers are.

This dilemma--of who is best able to make marketplace decisions--underpins a very important document in the history of consumerism. That is, the Consumers Bill of Rights.

When President Kennedy first established the Bill of Rights in 1962, his intent was not only to assure consumers their rights, but also to reinforce the idea that consumers have the responsibility to exercise their rights.

And, recognizing that consumers have both a right to be informed, and a responsibility to take time to inform themselves, President Ford added consumer education to the Consumers Bill of Rights in 1975.

In doing so, he said:
"The time has now come to recognize a fifth right--one without which consumers cannot gain the full benefit of the other four. This is the right to consumer education."

And he want on to say:
"It is my earnest hope that consumer education will become an integral part of the regular school instruction, community services and educational programs for people out of school."

President Ford's statement puts consumer education in the context of overall education, and survival skills. Education, including consumer education, is a life-long process. It takes place in context of the times in which we live, in response to the demands of current events, and in preparation for the future. Therefore, it requires use to use new approaches and new methodologies.

The 1990s--and the challenging new century we are about to enter--demand that we prepare individuals of all ages, backgrounds, languages, and ethnicity to enter a rapidly changing and highly technical society.

In response to these demands, the focus on education has been changed from the responsibility of just the schools, to the joint responsibility of students, parents, teachers, administrators, local, state and Federal government, business and industry, and the entire community that depends on schools for its quality of life.

Likewise, the demands of the 1990's have led us to take a munch more inclusive view of consumerism than we have in the past. A view that takes into consideration every aspect of our lives, and the skills we need to make the marketplace adapt to our needs.

One example which comes immediately to mind is that the President has broadened the definition of consumerism to include two vital needs of families today: education and child care.

There are those who question whether this devalues the traditional definition of consumerism. Personally, I believe it strengthens it.

We should acknowledge the definition of consumerism should include many other areas of our lives--such as:

* choosing the best educational program for our children

* selecting the best child care program for our family's needs

* voicing our desire that transportation systems be accessible to the disabled; and

* demanding that airlines be smoke-free.

And in the process, we become more active in educating ourselves and others about the marketplace and exercising our rights to enjoy its full benefits.

As a part of this more inclusive view of consumerism, the broadened view of consumer education to which I alluded earlier is highly appropriate.

It places the responsibility for consumer education not only on consumer educators and researchers, but also on local, state, and Federal government, private industry, private sector groups, and, yes, the individual consumer.

Joint responsibility can work to the benefit of consumers. During this three day conference, you will have touched on practically every topic that I might raise. Believe me, I know that you in this room are experts.

So, for just a few minutes, I'd like to focus on a few prominent areas where consumer education is critical, and some of the approaches directed at addressing these needs.

One area we've heard a lot about, as a result of recent media attention on the demise of oat bran, and the availability of Simplesse, is the relationship between nutrition and health. In an effort to assist consumers in identifying foods for a healthy diet, Health and Human Services Secretary Sullivan has or is planning to issue a number of proposed regulations to reform food labeling. Under one proposal, the Food and Drug Administration can ban misleading health claims, yet still allow manufacturers to make truthful health claims based on scientific evidence that: a high fiber intake may lead to a decreased risk of cancer; lower levels of fats, cholesterol and sodium may lessen the risk of heat disease; and calcium may contribute to the prevention of osteoporosis.

The regulation of health claims is also written to address total diet, so it will prevent one health claim from overshadowing the entire product. Thus, consumers will no longer be fooled into thinking a "high fiber" claim makes the product a healthy choice if the product also contains high amounts of saturated fats.

Health claims represent just one area of concern, however. At a recent food policy conference in Washington, D.C., Secretary Sullivan outlined another FDA initiative on nutritional labeling.

In addition to mandating nutrition labels for packaged foods, and defining terms such as "light" and "high fiber,m" the FDA is also reviewing food label formats to find which are easiest to understand and use. Ideas include use of charts or graphs. The FDA plans to identify a variety of alternative formats, and then test them with consumers to determine which format works best.

While HHS is taking the lead in this effort, food labeling reform would not be possible without industry and private interest group input and cooperation.

Two other policy areas come to mind when I think of how industry and private interest groups are best able to provide for consumer education. One area is product liability, an issue that evokes a number of emotions. Three basic principles are guiding the Administration's approach in reforming product liability:

* Fair and speedy compensation for actual damages suffered as a result of unsafe or defective products.

* Strong incentives for the design and manufacture of safe products.

* Access to a wide range of innovative products at reasonable prices.

It would be naive to assume, however, that such reforms will be effective if consumers lack knowledge in how to use the system. Consumers need to be aware of an understand all of these options, and both their benefits and drawbacks.

If consumers' rights are to be protected, business and consumer representatives must come together to discover common ground. They must begin a dialogue on how to balance consumer redress with our nation's ability to compete and bring new products to the market.

I am pleased that such a meeting did occur this February, when representatives of six consumer groups met with members of the Council of Competitiveness, chaired by Vice President Quayle. While complete agreement on this issue may not be possible, the first step toward a working relationship has been taken, and I hope that both sides will proceed in good faith.

A second and less contentious policy area wherein business and private sector groups are taking the lead in consumer education is consumer privacy. The concern here is that the balance between the consumer's right to privacy and business's need for information has become quite unbalanced, given the quickening pace of technological programs.

That progress has outpaced consumers' ability to protect their privacy of information, medical and insurance records, direct marketing, and telecommunications. We've learned a great deal from meeting with industry members, consumer leaders, legislators, and regulators. We believe that much of what we have learned should be passed on to consumers.

A major responsibility of industry is to help educate consumers, across the board, about how personal information about them is gathered, analyzed, grouped into lists and rented or sold, or otherwise used, without their knowledge or consent. consumers deserve to know about this process, and should have choices.

We recommend that this education take place in a variety of ways and places--in bill stuffers, in the schools, in adult education centers and seminars, through advertising and other media formats, and in the workplace. Benefiting from this educational process, consumers can exercise better control of their personal lives, as they choose.

In an effort to expand the educational process, Linda Golodner of the National Consumers League is sponsoring a conference on privacy in cooperation with my office. The conference is scheduled for late June, so final details on the agenda are still pending.

A number of industry groups have contributed a great deal to consumer education through private research initiatives. One example is the Alliance Against Telemarketing Fraud's ongoing campaign to educate consumers on how to protect themselves from telephone swindles.

Another research effort that I am excited about that will help identify specific consumer education needs across a wide range of areas is now underway, through the leadership of Steve Brobeck of the Consumer Federation of American.

CFA's consumer competency survey was developed in cooperation with some of you in this audience. Our office had the opportunity to participate, and when it is completed and the results are announced, it will go a long way in identifying needs for consumer education.

Sometimes, however, private sector consumer groups' efforts are designed more to advance their own agendas than to educate consumers. One area in which interest groups have been especially active is food safety, focusing on the use of pesticides.

Here the challenge is to translate the process of scientific measurement--of carcinogens, for example--into risks and benefits that consumers can clearly understand. More importantly, we need to give consumers a balanced picture, so that they learn the risks of not using pesticides as well.

The same is true in addressing the issue of biotechnology. Its application to pharmaceuticals has made available cheaper, more effective drugs to treat a wider universe of illnesses. Its application to agriculture has made available better quality and cheaper produce. Clearly, the communication of risk is one area where your expertise is desperately needed. Clearly, the average consumer will not understand this technology, and some communities are at a particular disadvantage.

During National Consumer's Week, we will begin our outreach to those consumer groups whose contribution to our economy is often overlooked, including the low-income, minority, elderly, disabled consumers, and especially children.

With regard to minority consumers, we are sponsoring a leadership conference on minority consumer issues, addressing particular concerns of African-Americans, Hispanic, Asian, Native American and other minority consumers.

Secretary Sullivan is keynoting the conference, and will discuss both FDA's food labeling initiatives, and development of educational self-help mechanisms that can improve overall consumer behavior in the marketplace. This includes making better nutrition and health choices for themselves.

The buying power of minority consumers is increasing, and they are becoming ma more attractive consumer segment for advertisers and marketers. And, according to the Hudson Institute's Work Force 2000 report, minorities and new immigrants will comprise a significant percentage of our nation';s labor growth in the next ten years.

For some, especially recent immigrants, the customs of their home countries may be much different. For example, they may feel uncomfortable complaining about an inferior product or service. Language barriers may exist which prevent them from taking advantage of some written materials, and, additionally, they may not have yet learned how to adapt their buying habits and the way they make purchasing decisions to their increasing income.

Clearly, to provide the proper educational materials to help address minority consumer problems, we need to increase our knowledge about minority consumers' expectations in the marketplace.

This lack of knowledge and the urgency of the problems they face--nutrition and health, and consumer credit, for example--provides good justification for research on minority consumer behavior.

As consumer affairs specialists in research and education, we can contribute significantly to the betterment of minority consumers. I hope you will consider this as a part of your own agenda for consumer research and development of consumer education materials.

I truly believe consumer education int he 1990's will be more important than ever before. It will be the joint responsibility of government, industry, private sector groups, consumers, and educators and researchers like yourselves. We all share the responsibility for educating consumers. By working together, consumer education can occur, again, in the context of survival skills, along with public and private efforts to develop policy responses that resolve consumer concerns.

In closing, I would like to share this advice from Robert Fulghum, offered in All I Ever Needed to Know I learned in Kindergarten: "Everything we need to know is in there somewhere. The Golden Rule and love and basic sanitation. Ecology and politics and equality and sane living."

He goes on to say, "Take any one of those items and extrapolate it into sophisticated adult terms and apply it to your family life or your work life or your government or your world, and it holds true and clear and firm.

Think what a better world it would be if we all--the whole world--had cookies and milk about three o'clock every afternoon and then lay down with our blankies for a nap. Or if all governments had a basic policy to always put things back where they found them had to clean up their own mess."

And finally, he says, "It is still true, no matter how old you are--when you go out into the world, it is best to hold hands and stick together."

A METHODOLOGY FOR INTEGRATING HOUSEHOLD SURVEY DATA INTO A NATIONAL ACCOUNTS FRAMEWORK

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Introduction

The idea of using income and expenditure household surveys to elaborate household sector accounts in a national accounting framework has long been considered. Generally, the problem has been viewed as the relationship between macro and micro household statistics. The vital importance of both, micro and macro household statistics to monitoring economic development and social conditions is widely recognized. It has also been agreed that integration of these two sets should be made, not only that they should be supportive of one another, but also that they eliminate differences between national accounting and surveys statistics. Since in most countries macro statistics developed independently from micro statistics, there are many challenging tasks ahead for integration.

Integration however, does not mean identity and some differences between the two sets of statistics are necessary. The differences stem from the diversity of the observation conditions. It is not only a technical problem of collection of data; some kinds of transactions are visible and significant at the macro level, for example, regarding household's saving, actual contribution to social security schemes, insurance claims, etc. Otherwise, some other transactions are detected only at the micro level.

It has been generally agreed that some differences must be maintained. The task of integrating micro and macro statistics should be restricted to identification of the flows that cause differences.

The problem has received considerable attention since the publication on the subject by Nancy and Richard Ruggles. The problem has also been raised along the process of revision of the System of National Accounts (SNA)* particularly in those issues related to terminology, imputations, coverage of transactions and transactors, subsectorization of the household sector, boundary problems of income and consumption of households and so on.

The SNA framework shows the areas of economic analysis and policy in relation to production, consumption, accumulation and asset accounts for the nation as a whole. It does not dwell in any detail on the specific uses for sector accounts which in the case of the household sector the most relevant are the following: consumer's demand analysis, studies on national wealth, distribution of income,analysis of saving behavior and so on.

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* The views expressed in this paper are those of the author and not necessarily of the United Nations.
The author would like to thank: the Statistical Office of the Instituto Nacional de Estadistica, Geografia e Informatica de Mexico (INEGI) for allowing use of data to develop this methodology; Jorge Daude who has being integrating data for all the sectors of the economy and Luis Flores for the data processing work.

* The UN Statistical Commission launched in 1982 a review of the present SNA (1968) in order to reconsider its conceptual framework and also harmonize it with the statistical standards used by other international organizations. This review is scheduled to end in 1993 with a revised version of the SNA.

The suggestion now is to incorporate them into the SNA framework through the creation of different hierarchical levels where data for higher level groups are built up from data of lower level groups.

Recent technological development in the compilation, storage and retrieval of data have created a new situation on the treatment of micro data. With new technologies available today in many countries, storage and data retrieval are less onerous. It is possible to use the micro data in a new and more direct way, and it would be possible to reach the hierarchical incorporation mentioned above.

Integrated compilation of national accounts.

Another issue stemming from the process of revision of the SNA is the need to reoriente compilation of national accounts towards compilation in an integrated manner covering, to the extent possible, all transactions referring to production, income and distribution, finance and accumulation of each unit or institutional sector that take place in the economy. It would include not only GDP data but presentation of comprehensive supply and demand tables linked in a consistent form to institutional sector accounts. The traditional emphasis on production accounts is now being changed to a new focus on integrated sectoral analysis. This focus has the advantage that data for individual transactors (e.g. members of the household unit) are already available in an integrated manner. Aggregation of these data becomes, therefore, information for groups of transactors (e.g. household sector). Consequently sectoral integration follows naturally the recording information by micro units.

The Statistical Office of United Nations (UNSO) is now developing a methodology to implement the framework for this approach in which the main focus is the sectoral integration of data. It is believed that in an integrated framework it is possible to analyze all aspects of a sector, i.e. production, income and outlay financing. This focus is becoming more attractive for analysis given the increasing of technological possibilities and the interest in micro as distinct from macro analysis. Furthermore, this development facilitates the use of results of sectoral studies in increasing usefulness of national accounts analysis.

As a part of this development UNSO has been working in developing the linkages to incorporate data from an income and expenditure household survey in the household sector account of the SNA. This will be described later on.

The household sector in national accounts

In its most simplified form, the SNA divides the economy into three sectors: government, enterprises and the households sector. The enterprises sector comprises only corporate enterprises. There is a large group of very small units that do not keep formal accounts and which are included in the household sector of the economy.

In national accounting practice the household is therefore defined as the residual category of domestic activities and is often estimated as a residual. Deriving the household sector in this way is non advisable for many reasons. Firstly, because the sector usually represents about 60% of domestic expenditure. On the other hand, as a unit of observation the household is the appropriate "mediatory" entity in which individuals can be linked to the whole economic system. The household unit is where reproduction both of the system and of human beings takes place. In other words, it is the unit where interaction of the socioeconomic determinants and characteristics of individuals can be best observed. Everybody has his/her own experience as a member of a household. The decision on whether or not to enter the labor force, to acquire labor skills, to vary the size of his/her family, to seek health and education services etc., depend largely on how this interaction works within the household. In spite of its key role in economic analysis, the treatment of the household sector in many countries' accounts has been neglected, maybe because of the difficulties mentioned in the above section of this paper.

The use of household surveys in national accounts

As stated, there are integration issues that have to be clarified in the future. Nonetheless the national accounts framework provides a convenient basis for defining the revenue and expenditure concepts to be used in household surveys. Likewise, household surveys are potentially an important source of information for national accounts which has not been fully used until now. This is so because national accountants have little to do with the development of household surveys and because household surveys statisticians are not familiar with the conceptual framework of national accounts. Besides, households surveys are carried out with different objectives and show important differences in temporal, conceptual and geographical coverage.

Income and expenditure household surveys should play an important role in national accounts development because they may provide the basis for an accounting approach to register data on revenues, expenditures and financial transactions of households, providing the link between household sector accounts with accounts for other sectors. Household survey data is almost the only independent source derived directly from the household while, as was already mentioned, in national accounts the household sector data are usually derived indirectly through information obtained from other sectors.

Development of a methodology to integrate the Income and Expenditure Household Survey carried out in Mexico into the framework of the Mexican accounting system.

As part of the methodology which is now being developed by UNSO, it was decided to integrate data form the Mexican survey to its national accounting system. The decision to take Mexico as a case study was due to many reasons. First, because both, the national accounting system and the household survey program have a long tradition in Mexico and they are highly recognized among statisticians. As well, the project of national accounts is developed in the same institution (INEGI) where the income and expenditure survey is carried out. This situation is particularly advantageous because the experts of both projects work in close collaboration with one another, minimizing the endless procedures which sometimes are needed to coordinate activities among different institutions.

Characteristics of the Mexican Survey

The Income and Expenditure Household Survey (ENIGH) of Mexico was carried out in the last quarter of 1983 and throughout 1984. Information on approximate 25,000 households was collected in five stages of field work . Each stage lasted three months and in each of them a representative sample of 5,000 households at national, urban and rural coverage was gather in order to obtain reliable estimations.

Among the main objectives of the survey were to obtain information concerning the structure and the distribution of household salaries in cash and in kind as well as of interest, rents, transfers, gains, etc. Information on family structure and the economic activities of their members and the structure and the amount of their expenditures. A particular characteristic of the Mexican survey is that detailed questions for producers were included. Since these questions were designed in terms of production, the information gathered, with some adjustments, has the possibility to be used to elaborate a household production account.

In defining the concept of household, this was understood as the "housekeeping unit" that included all persons living in the same dwelling and sharing food and housing costs. In general, every member of a household, whether native or foreign, was considered a "usual resident", except those members who were absent for some period of time

The process of integration

In order to utilize the results of the survey for the sector account of the compilation framework, a detailed study of the methodology and the conceptual, temporal and geographic coverage was made. Due to some methodological adjustments that were implemented after the first stage of field work, it was decided to utilize data from the second sample period, i.e. the first quarter of 1984. Data of the three remaining stages were still in process.

The selected quarter comprised a total of 4963 interviewed households. The variables under investigation have different time periods of reference related either to the week of the survey, or to the previous month, quarter, semester or year, in accordance with the frequency at which different kind of goods and services are usually acquired.

Because production was not the main focus of the survey, data were collected, but not originally processed with detail for "households with production" (households where at least one of its members is entrepreneur or own account worker). The information contained in the original questionnaires was then later processed, given that these data are indispensable for the elaboration of the Supply and Demand Table. This was done with the help of microcomputers, using DBASE 3 PLUS software.

In order to elaborate the respective production accounts, different data files of households with production were created: for urban as well as rural households and for activities like agriculture, manufacturing,"maquila", trade and other personal services. After adjusting inconsistencies, these data were linked to the main survey data files.

After analysis of the survey's concepts, a bridge table was designed and developed with LOTUS software (see annex I) to determine which of them would fit within the central framework of the SNA. The first column of this table contains all survey's items identified by its name and the key number assigned for processing. All the values of the survey's transactions classified by activity of the household were allocated in the next columns.

Subsequently, these values were adjusted to the one year period of reference and also adjusted with the annual average of inflation. The items corresponding to all the accounts of the sector were included in the next column. In that way the relationship between both systems was established. Later, different adjustment were made to those survey concepts who did not fit with the SNA framework. The last of this set of adjustments was the expansion of data of the survey's sample. This was made in the final stage of the table in order to avoid a large distortion. Final figures and statistical discrepancies were to be shown in the last two columns.

Findings and Shortcomings

After completing these tables, it is possible to state that integration of data of both systems is feasible. The household survey data became a substancial point of reference for national account figures in the same way that national accounts are the appropriate framework for household surveys design.

It is clear that every country has its own experience and the set of adjustments to be made would depend on conceptual, temporal and geographical coverage of its surveys. The following were the major findings and shortcomings in the case of Mexico:

An urban bias was detected into to the sample, e.g. that rural households are under-represented. As the sample universe was not the total of households with production but the total of households of the country, some figures like those related to remunerations of employees in agricultural activities were low compared with the figures of national accounts.

Because the changes in stocks were not taken into account in the survey, the concept used to measure production in the survey is referred only to the sales revenues. Concepts like direct and indirect taxes, fees for irrigation payed to the government as well as some property income withdrawals of entrepreneurial profits and payments of life insurances, are not well represented in the survey and can be covered more accurately through official registration. Some concepts like commissions, tips, and other payments in kind are the reason for discrepancies between the survey and the SNA in so far as the survey did not cover adequately neither current transfers to or from the rest of the world or donations.

It has to be noted that in 1984 the annual average rate of inflation was at 60% with decreasing monthly rates throughout the fiscal year. The high rates of the first quarter stemmed from the previous year in which the Mexican economy shrunk by more than 4% after years of continuous growth. Consequently, it could be assumed that the consumption levels of the first quarter 1984 were below the normal level and increased as soon as the price level stabilized and the production increased. This assumption was confirmed later by the SNA estimates and survey data have to be adjusted in order to avoid discrepancies with the SNA.

All the components of the production account for the first quarter of 1984 obtained from the survey were extrapolated with the help of data of the quarterly sectorial GDP at current prices calculated in the statistical office of INEGI. That procedure demonstrated that the results of the calculation for the institutional accounts are considered to be sufficiently representative.

Finally it should be mentioned that the composition of the consumption expenditure of households resulting from the survey was very similar to the one calculated in the SNA through indirect procedures.

At this point, it may to be stressed that the data of the remaining three quarters of 1984 could not be processed in time to be included in this work, which is consequently based on the available data of the first quarter. It is possible that adjustments may be avoided with the data for the whole year, particularly those related with the representativeness of the sample.

The lesson of this experience of the applied methodology in the case of the Mexican systems became very useful to many countries who became interested in using household surveys for national accounts compilation. I suggest to analyzing the problem in other regions, to formulate a well developed methodology that would be able to improve both national accounting procedures and household survey design.

BIBLIOGRAPHY

Hans J. ADLER and Michael WOLFSON: "A Prototype Micro-Macro Link for the Canadian Sector". Review of Income and Wealth. Series, 34. No. 4, December 1988.

Laszlo DRECHSLER: "Household Consumption and Income Concepts". Paper presented to the Expert Group Meeting on the Revision of The SNA. Household Sector. Florence, Aug-Sept 1987.

Richard RUGGLES and Nancy D.RUGGLES: The Integration of Macro and Micro Data for the Household Sector. Review of Income and Wealth, series 32, No.31, September 1986.

Lourdes URDANETA:"Sub-sectoring the Household Sector". Paper presented to the Expert Group Meeting on the Revision of The SNA. Household Sector. Florence, Aug-Sept 1987.

Jan v. TONGEREN: "A Methodology for Compilation of Integrated National Accounts". United Nations Statistical Office, 1988.

ANNEX I

Code ident	SURVEY ITEMS	VALUES ENIGH																		SNA CATEGORIES
		WITHOUT ADJUSTMENTS						WITH ADJUSTMENTS FOR THE PERIOD OF REFERENCE						WITH ADJUSTMENTS FOR INFLATION						Income, Expenditures and Capital Flows
		Industry	Services	"Maquila"	Trade	Agric./ livestock	Total	Industry	Services	"Maquila"	Trade	Agric./ livestock	Total	Industry	Services	"Maquila"	Trade	Agric./ livestock	Total	

SCN APROXIMATION		ADJUSTMENTS												RURAL HOUSEHOLDS (HOGRUR)		STATISTICAL DISCREPANCIES
		Other rent adj. to SNA Operating surplus		Comp. of empl. adjustments : inclusion of agricult. salaries		Adjustments of compensations with the SNA total		Adjustments for own consumption differences with the SNA		Adjustments for net indirect taxes		Expansion of the survey sample				
R	E	R	E	R	E	R	E	R	E	R	E	R	E	R	E	

THE HIERARCHY OF CONSUMER PARTICIPATION AS A BLUEPRINT FOR SEGMENTING CONSUMER STRATEGIES

Drew Hyman and John Shingler, The Pennsylvania State University*

Abstract: A fundamental principle of the market economic model is that a "balance of information" keeps the market efficient. This paper suggests that the sophistication of consumer education lags significantly behind that of marketing and advertising, and that segmentation and targeting of consumer information, education and protection (IEP) are necessary to redress resulting imbalances. A series of strategies based on the hierarchy of consumer participation is presented as a "blueprint" for targeting policies and programs.

INTRODUCTION

A fundamental principle of the market economic model is that consumers have full and complete information about products and their options, and that this information is used to make wise decisions about purchases. A "balance of information" keeps the market efficient. Failing this, the market is skewed, consumers make inefficient choices, and supply-demand cycles are distorted. A corollary assumption is that all consumers are competent in information acquisition and use. Needless to say, both experience and consumer research are replete with examples of how these principles do not apply in our present economy. Additionally, market segmentation has become a fundamental principle of advertising and selling. Segmentation allows manufacturers and sellers to target their products or their pitch to specific sub-groups. A plus from the consumer perspective is specialized products for certain market "niches." On the minus side segmentation can lead to targeting of inferior products to certain groups and unbalanced information about products and services. Thus when consumers are not fully informed or seller-oriented segmentation is not balanced by some consumer mechanism the balance of information is upset.

An imbalance of information leads to the current situation with a diverse population of consumers in the marketplace. On the one hand, a remarkably aware and capable contingent makes good use of resources by purchasing only after consideration and assessment of price and quality. On the other hand, a substantial proportion of consumers is essentially a manipulated mass, constantly victimized by one-sided promotions and advertising, lack of product knowledge, lack of wise decision-making skills, and accorded few regulatory protections. This paper suggests that the sophistication of consumer education lags significantly behind that of marketing and advertising, and that segmentation and targeting of consumer information, education and protection (IEP) are necessary to redress resulting imbalances.

The research base for this article is the Penn State study of consumer decision making which established a "heiarchy of consumer participation" (Hyman, 1990). The hierarchy is based on a composite scale which measures consumers' knowledge about a decision area, independence of decision, use of information sources and tendency to influence others. This research allows us to segment consumers based on their proficiency in consumer decision making and provides a "hard data" base for the inference that to target specific consumer segments for optimal program impact and efficient, effective use of resources.

OVERVIEW OF THE HIERARCHY OF CONSUMER PARTICIPATION

Consumer research reveals a differential receptiveness on the part of consumers to the understanding and use of consumer information and education. Furthermore, our research on a statewide sample of Pennsylvania consumers shows that the patterns identified in the consumer literature are interrelated in consumer decision making. Hyman (1990) finds that consumers are not equally independent in their decision making; they are not equally well informed; they do not use the same sources of information; nor do they equally attempt to influence others. Most importantly, there is a strong interrelationship between the four sets of variables that measure these items. The hierarchy identifies four "ideal types" of consumers: consumer influentials, active consumers, dependent consumers, and non-decision makers.[1] Figure 1 depicts this hierarchy of consumer participation. The different levels represent points on a continuum. "Consumer proficiency" is higher as one moves up the hierarchy.[2] The study shows a clear, statistically significant pattern across the four variables: high scores on one are related to high scores on the others. This is a significant finding for it means that consumers who exhibit greater knowledge and independence in their own decision making have a higher than average tendency both to get information from a variety of sources and to influence others. **A key inference from this fact is that consumer information education and protection programs should not be directed to all consumers willy nilly. Some will be able to benefit from in-depth technical information. Others can comprehend only uncomplicated messages. Segmentation is required for success.**

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[1] The hierarchy is presented in Hyman (1990) is only summarized here for the benefit of the reader. Hyman (1990) and Maynes (1988) provide references to previous research.

[2] The hierarchy defines "consumer proficiency" as a composite score based on (1) the independence of decision making, (2) how well people are informed about a decision area, (3) their use of one or more sources of information about the product or service, and (4) their involvement in advising or influencing others' decisions.

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Figure 1. HIERARCHY OF CONSUMER PARTICIPATION

CONSUMER INFLUENTIALS-- Active and also involved in others' decisions.	TAKE POLICY/CLASS ACTION COMPLAIN TO AUTHORITIES PARTICIPATE IN LOCAL MEETINGS HELP OTHERS MAKE DECISIONS
ACTIVE CONSUMERS-- Decide based on information sources.	ENLIST AID OF COMMUNITY LEADERS ATTEND COMMUNITY/GROUP MEETINGS GET INFORMATION FROM MEDIA GET INFORMATION FROM FAMILY/FRIENDS GET INFORMATION FROM SELLERS, ADVERTISING
DEPENDENT CONSUMERS-- Let others decide.	DO WHAT COMMUNITY INFLUENTIALS SAY TO DO DO WHAT FAMILY/FRIENDS SAY TO DO DO WHAT SELLERS SAY TO DO
NON-DECISION MAKERS-- No active involvement.	NO ACTION--DEFAULT, AND KNOW CHOICES NO ACTION--DEFAULT, AND DO NOT KNOW NO ACTION--DO NOT KNOW OR CARE

Hyman (1989) also supports the idea that these patterns extend beyond consumer behavior in a specific area. Recall that social and political participation in American society also are not evenly distributed throughout the population. Those who participate in social, economic and political affairs tend to reflect higher levels of income, education and age (Verba and Nie 1972; Smith and Macaulay, 1980). Some citizens remain outside or on the periphery, of decision making. Others become intensely involved. A "hierarchy of political participation" (Milbrath 1965, Milbrath and Goel 1982) reflects patterns similar to those in the consumer hierarchy. Specifically, Hyman (1989) extends the research beyond consumers in specific consumer decision making to more general consumer and political behavior. Significant relationships are found between scores on the consumer decision-making scale (CDS) and: (1) a consumer **problem perception** index; (2) a consumer **complaining behavior** index; (3) a **community and political participation** index; and (4) a **consumer information seeking** index. A cluster analysis of the four scores produces six specific groupings of consumers and the percentage of consumers in each cluster (Hyman, 1989). Each cluster has different levels of consumer proficiency and different characteristics. The six groupings parallel the hierarchy. The clusters are labeled (from the most proficient to the least proficient): Cosmopolitans, Opinion Leaders, Knowledgeable Actives, Average Actives, Dependent Consumers, and Non-Decision Makers. The next section and Table 1 summarize and describe the six major clusters. The clusters provide empirically-derived targets for designing consumer information, education and protection (IEP) strategies in the latter part of this paper.

OVERVIEW OF THE SIX CLUSTERS

The individuals in the six clusters are very different in their utility consumer problem perception, consumer complaining, consumer decision-making proficiency, problem perception participation in community and political affairs, and consumer information seeking. These differences are important benchmarks for a segmented approach to consumer education and protection. Table 1 presents the average (mean) scores for each of the variables in the cluster analysis.

TABLE 1. CLUSTER SCORES FOR VARIABLES ON WHICH CLUSTER GROUPINGS ARE DERIVED

CONSUMER PROFICIENCY CLUSTER	Dec. Mkg.	Prob. Perc.	Compl. Index	Pol. Part.	Info. Seek.	%
INFLUENTIALS						
Cosmopolitans	57.2	2.5	3.0	4.7	4.5	4%
ACTIVES						
Opin. Leaders	36.5	3.1	2.4	4.3	5.0	9%
Knowledgeable	25.8	1.9	2.2	4.2	3.1	9%
DEPENDENT						
Moderate. Dep.	15.2	1.7	1.6	3.2	3.5	28%
Hi Dependence	7.0	1.6	1.5	3.5	2.0	22%
NON-DECISION MAKERS						
Non-Dec. Makers	2.7	1.1	1.2	2.8	4.7	28%
Average Score	14.2	1.7	1.6	3.4	3.6	(488)

Consumer Influentials. The **Cosmopolitans** constitute four percent of consumers. Cosmopolitans are proficient in consumer, community and political matters. They are active in influencing others. They have a high tendency to be involved in matters of policy and change. "Consumer influentials" are the pool from which leaders, advisers and activists are drawn. They provide advice and aid to others, and they become involved in social issues. Cosmopolitans are prime targets for networking, organizing and advising. They have the capacity to utilize in-depth information, and to use it in broader, other-directed ways.

Active Consumers. The two "active consumer" clusters contain **opinion leaders** and **knowledgeable consumers**. They fall just below the consumer influentials on the hierarchy, and are well above average on the cluster variables. These clusters each contain nine percent of all consumers. Their knowledge, proficiency and participation rank in varying degrees from high to moderate. They can be expected to make considered judgments about their purchases using one or more sources of information. **Opinion leaders** score higher in all areas. The opinion leaders tend to be younger and have higher levels of education and income. Professionals and managers are the predominant occupation in this cluster. These consumers are different from the knowledgeables in that they frequently provide advice and information to relatives, friends and acquaintances. Opinion leaders, therefore, are a reservoir of potential recruits for consumer leadership and advisor programs. The **knowledgeables**, in contrast, tend to be in the middle-age groupings, with slightly above average incomes and education. There are some managers and professionals in this cluster, but it is characterized more by a high proportion of craftsmen. The knowledgeables typify the image of the average citizen who is reasonably well-informed and generally proficient in consumer decision making, but is erratic in information gathering and comparative shopping, and is not active in consumer affairs. These consumers need to be motivated to seek and use information, and perhaps most importantly, require high quality, easily accessed consumer information. Together, these two clusters are primary targets for consumer information and education. They also contain people who could be recruited and trained to be opinion leaders.

Dependent Consumers. The two "dependent consumer" clusters are labeled "moderately dependent" and "hi-dependent" respectively. They account for fully half of all consumers (28 and 22 percent respectively). We characterize them as typical consumers. The average (mean) scores for the moderately dependent consumers are comparable to the mean scores for the overall study. However, the hi-dependent consumers are considerably below the average on decision-making proficiency and information seeking. Thus, the "average" consumers show considerable variation both within and between the clusters. The **moderately dependent** consumers are not well informed: they generally have only recognition-level knowledge, and about one in four responds "don't know" to questions on their decisions. They have average to low desire for more utility information. As an "average group" overall, this cluster will have some consumers who are quite adequate in handling their decisions, but the scores suggest that most need considerable information, education, and even protection. The **hi-dependent** people are well below average on all of the variables. They score particularly low on consumer decision making and information seeking. This 23 percent of consumers is very low in consumer proficiency, problem perception, complaint handling and desire for more information. These consumers tend to rely on others to make their decisions, or at least to tell them what to do. They use few, if any, sources of information to become knowledgeable about utility issues. This hi-dependent cluster is characterized by many consumers with education of a high school level or less, ages 60 and above, and annual household incomes of less than $15,000. (We do find some people in this cluster who are highly educated, have higher incomes, and high participation scores; these consumers could protect themselves, and apparently have chosen not to be bothered.) If consumers in this cluster are to avoid the negative aspects of the market and deregulation, programs to provide advice and decision counseling by well-informed, non-self-interested "others," or regulatory protections, are required.

Non-Decision Makers. Finally, the "non-decision makers" represent 28 percent of our consumers. Non-decision makers take default options or they leave their decisions entirely to someone else--sellers or significant others. In-depth, basic consumer education or regulatory protections are required for this group. Most of these consumers have a high school education or less. They score extremely low on consumer proficiency, consumer problem perception, complaint handling and community participation. There are some consumers in this group who express a high desire for more information about utility matters; these people could benefit from in-depth consumer education. The majority, which includes a high proportion of people over 65 years of age, expresses little desire for more utility information. The implication is that some direct assistance or protection policies are required for this group.

We suggest that effective consumer strategies will recognize the specific characteristics of these consumer groupings. The next section and Chart 1 identify a series of options for consumer information, education and protection (IEP). The options are intended to provide a general guide to the design of consumer information, education and protection strategies at any level or in any content area.

A BLUEPRINT FOR SEGMENTATION OF CONSUMER IEP

A logical inference from the hierarchy is that people with higher levels of decision-making skills have a comparative advantage both in the marketplace and in the regulatory arena. The comparative disadvantage of some is contrary to assumptions of both the market economic model and regulation in the public interest. Thus, segmentation of the consumer population is necessary for optimum consumer information, education and protection programs. We suggest a mix of three primary strategies: Consumer leadership; consumer education and information; and consumer protection.

- o **Consumer Leadership Strategies** emphasize the development of a network of trained, knowledgeable consumer leaders throughout the population. These strategies seek to create a "multiplier effect" by mobilizing the capacities of many individuals, organizations, companies and agencies to aid and to educate consumers. Consumer influentials and opinion leaders are primary targets for leadership strategies.

- o **Consumer Education and Information Strategies**[3] involve multi-faceted approaches to inform and educate consumers to make wise and responsible consumer decisions. Major distinctions on four levels are suggested; In-Depth Consumer Information should be directed primarily to provide consumer influentials and actives with a basis for working with other consumers; General Consumer Information should be directed to all consumers. Manufacturers and sellers, the mass media, and consumer organizations should have primary roles to play; General Consumer Education should be directed primarily to dependent consumers--those who need to learn how to decide as well as to acquire information; Basic Consumer Education is directed to people who need to learn the fundamentals of budgeting and purchasing.

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[3] Bannister and Monsma (1982) define consumer education as "the process of gaining the knowledge and skills needed in managing consumer resources and taking actions to influence the factors which affect consumer decisions." We make conceptual distinctions between the three forms (information, education and protection), although there is considerable flexibility and overlap. "Consumer information" is the provision of facts and figures about a product, service or organization. "Consumer education" is broader, including teaching consumers about wise search and decision making practices and how to use information. "Consumer protection" involves regulation of producers and sellers to protect consumers from various hazards that might otherwise emerge in the marketplace; and, direct assistance to individuals or groups to avoid hazards that are not controlled by regulation or marketplace dynamics.

o **Consumer Protection Strategies** provide regulatory approaches as a fail-safe mechanism for health, quality and safety protections for consumers in general, and a safety-net for individuals that have problems or are particularly vulnerable. These strategies target all consumers for basic protections, and the non-decision makers and some dependent consumers for special programs.

Figure 2 presents a typology of consumer strategies and can serve as a blueprint for a segmented approach to action.

Figure 2. TYPOLOGY OF CONSUMER STRATEGIES

I. CONSUMER LEADERSHIP STRATEGIES

- **Leadership Education**
- **Consumer Leadership Network**
- **Consumer Adviser Training and Education**

II. CONSUMER INFORMATION AND EDUCATION STRATEGIES

- **In-Depth Consumer Education**
- **General Consumer Information**
- **General Consumer Education**
- **Basic Consumer Education**

III. UTILITY CONSUMER PROTECTION STRATEGIES

- **Consumer Guardian Program**
- **Complaint and Mediation**
- **Brochure and Literature Review**
- **Product and Service Quality and Safety Certification**

Leadership Education: Leadership education aspires to have people in every community with the knowledge, skills and motivation to inform and teach others how to make wise consumer decisions. Hyman shows (1990) that a large proportion of people rely on others for advice about their utility consumer decisions: much consumer information is communicated informally, by word of mouth. Leadership education promotes a multiplier effect--teach a few to teach others--leading to a larger overall impact.

Leadership education should be aimed primarily at consumer influentials and opinion leaders. The first goal of leadership education is to recruit and train consumer influentials and opinion leaders to be community consumer educators, including an in-depth understanding of issues. Second, where applicable, it uses seminars, workshops and conferences to provide community leaders with the information and skills necessary to conduct local consumer information and education programs, to identify and voice problems in programs and policy in policy-making arenas. Third, an ongoing consumer education network is necessary to inform and renew community consumer educators (see below). Together, these three goals are directed to developing and maintaining a pool of consumer education leaders and advisers in our communities.

A Consumer Leadership Education Network: An associated strategy provides motivation, reinforcement and renewal through an ongoing leadership network for cosmopolitans and opinion leaders. The leadership network should provide both periodic communications to members (as through a newsletter), mailings of new or revised information, and copies of brochures for distribution to others. It could also make available an ongoing and flexible news and information network through audiotext, videotext and computerized bulletin boards. Speaker's bureaus, displays at conferences and workshops, and a video tape library for rentals can provide additional resources for community leaders. A central feature of such a network should be a consumer education advisory panel to review government and corporate policies and materials and provide feedback regarding consumer needs. Such an ongoing network is probably a key to the long-term success of a leadership education program.

Consumer Adviser Training and Education

A large proportion of consumers rely on the advice of others--in particular family, friends and acquaintances--in making their decisions. But family and friends are not always reliable sources for technical information or up-to-date facts about consumer matters. The consumer adviser concept takes into account the fact that most consumers are inclined to discuss consumer issues in informal settings rather than formal programs. **Advisor training will recruit and train people to interact in an advisory capacity with consumers in a variety of day-to-day contacts--the workplace, community meetings, and social gatherings.** The goal is to have a large number of people in every community who are willing to assist those consumers who are not capable of making decisions on their own. Leaders, staff, and members of a wide variety of community organizations can serve in this capacity if they are informed and motivated to discuss consumer matters with others. Dependent consumers can be matched with these more knowledgeable consumers, through the assistance of local organizations and referrals by private companies and governmental agencies.

Consumer Information and Education: The hiearchy presented above requires that different types of information and education be provided for the different types of consumer. Robinson notes that the problem for the individual lies in the nature of the household as the basic decision making unit.

> The household consumer is, and will for the foreseeable future remain, a small-scale, unspecialized buyer for whom the benefits from a "good" purchase may be very small whatever the combined

> benefits to society as a whole might be . . . Nonetheless, it is clear that many individuals and households do not realize how much they could improve their level of living by making better choices in the marketplace (Robinson 1988, p. 263).

Russo's review of the literature finds that "generally speaking, the knowledge differences between experts and novices are substantial, and consumers are novices. . . . They must make do with whatever knowledge they can glean from friends, publications, and the self-interested salespeople." He also finds that "the availability of information can do little to aid consumers if they don't have enough knowledge to understand it" (Russo, 1988, p. 187). Consumer information and education therefore should be targeted to the different levels of proficiency and need.

As noted earlier, consumer **information** programs provide facts and figures, while consumer **education** programs also teach people how to use the information in making decisions. The choice of information or education is dependent on the proficiency of the consumer target group. Consumer information programs should be directed to higher level consumers who understand wise decision making practices. Consumer education programs teach decision making skills to the moderately active and dependent consumers and should motivate them to use information in their decision making.

The most in-depth consumer education can be provided in the form of booklets, pamphlets and brochures. Video and audio tapes, especially if combined with a toll-free line to answer questions, provide state-of-the-art options. Other sources of consumer education include night classes, continuing education courses, college curriculums, seminars, elementary and secondary schools.

Information distribution should not be limited to pamphlets and booklets. Local meetings and consultation by local consumer leaders will perhaps be the most effective. Video tapes and PBS local stations could provide information to local groups and individual consumers.

Decision-Making Education and Decision Guides: Consumers who are not proficient decision makers, in particular those in the dependent consumer clusters, and to an extent the non-decision makers require special attention. Written material in the form of targeted "decision-guides" that lead consumers through examination of facts and figures, consideration of available options, and proper decision-making procedures should be the mainstay of this strategy. Audio and videotapes with similar objectives can expand the repertoire. Workshops and local meetings led by consumer advisers or consumer educators can further assist people in consumer decision making.

Basic Consumer Education and Counseling: This strategy differs from consumer decision-making education in that it focuses on more general forms of consumer decision making. For example, workshops and pamphlets on this topic will promote the skills necessary for creating and balancing a household budget, considering household needs and income. It should be directed primarily at people for whom consumer education is only one aspect of a more general pattern of dependence. In-depth education of the least proficient consumers about fundamental purchasing, budgeting and decision-making practices appears to be necessary for a considerable proportion of the hi-dependence and non-decision making groups.

CONSUMER PROTECTION STRATEGIES

The goal of consumer protection is to protect the health and safety of consumer, and to assure adequate levels of quality and effectiveness for consumer products and services. The programs suggested below fall into two main categories of consumer protection. Programs in the first category are targeted to specific types of individuals. Protection for individuals takes the form of consumer guardian programs, and complaint and mediation programs. Programs in the second category are directed to the general consumer public. Two suggested programs ar brochure and literature review, and product and service quality and safety certification.

Consumer Guardian Programs: An innovative approach to helping disadvantaged and uninformed consumers involves the formation of "Consumer Guardian" programs. This approach uses trained volunteers who are well-informed as guardians for specific households. The volunteer takes the initiative to help designated households decide which options are most suitable for their needs, and aids them in managing their household expenses. For example, such a program is a likely adjunct to the "third party notification" provisions of many utility regulations. The "consumer guardians" could be identified in a similar manner to third party notification procedures, and would be notified when decisions or problems occur. Community organizations, religious organizations, senior citizens programs, manufacturers and sellers could all participate in this option.

Complaint Investigation and Mediation: Investigation and action in specific situations is the other primary approach to aiding individuals and families when problems arise. Programs that represent this option are well known in government and the private sector and will not be elaborated here. Bureaus of Consumer Protection, Citizen's Advocates, ombudsmen, and other third-party complaint and mediation programs have major roles to play.

Brochure and Literature Review: Another general consumer protection strategy involves the **review of consumer information and education materials** to assure that they are correct, complete, and available. Research shows that sellers and manufacturers are a prime source of information utilized by many consumers. A program to assure accuracy and completeness of seller information will, in turn, enhance the quality of services, ensure truthfulness of advertising, and promote excellence in other standards of the seller-consumer interactions. We recognize that Constitutional provisions related to freedom of speech and expression are involved here, and that this issue has been addressed in recent court cases. Ideally, manufacturers and sellers will cooperate in a voluntary program of advice and consent by some formally constituted consumer review group or regulatory body. Otherwise, the public may be restricted to review of those products and services that fall under specific areas of regulatory jurisdiction.

Product and Service Quality and Safety Certification: Perhaps the most fundamental protection for the general public is **product and service testing and evaluation.** Assurance of the quality and safety of products and services is fundamental to both the regulatory and market models. With regulated products especially the requirements for free market economic competition tend not to exist. Specifically, most regulated areas do not have a large number of sellers with easy entry and exit from the market for many products and services. When such "rivalry" or "oligopoly" exist, rather than competition, the U.S. system of government usually provides some form of oversight to protect the safety, health and quality of products and services. Many state and federal agencies perform this function for many items. Consumer organizations, like Consumers Union which publishes Consumer Reports magazine, play a significant role. Better Business Bureaus do as well. Despite the diversity of testing organizations, many products and especially services are not tested; information may not be disseminated widely; and frequent changes in products make this a continuing challenge.[4]

CONCLUSIONS

Our system divides responsibilities for different aspects of public policy among a variety of organizations and agencies. Consumer information, education and protection are the responsibility of elementary and secondary schools, colleges and universities, private businesses and corporations, nonprofit consumer organizations, and a variety of governmental agencies including Bureaus of Consumer Protection, regulatory agencies, Consumer Advocates, individual departments and agencies of government. Community Action Programs, Voluntary Action Centers, nonprofit agencies, Better Business Bureaus, and seller outreach programs are also important for making linkages between community organizations and with consumers who need information, education or help in making decisions. Chart 1 shows recommended relationships between the several strategies and the different empirical clusters. Chart 2 summarizes recommendations as applied to utility consumer IEP in Pennsylvania. It shows both that a diversity of organizations need to take responsibility in any one area, and that it is possible to apply this blueprint to develop a macro-strategy for action.

This article suggests that all parties to production, distribution and regulation have a role to play in assuring that consumers have adequate and accurate information and education on which to base their decisions. Deregulation and technological changes increase the number of decisions that are required. Each of the four strategies of consumer information, education and protection mentioned above, however, will have a different mix of involvement and responsibilities. We also recognize that there has always been competition, regulation, and deregulation of varying degrees in our society, and that technological and organizational innovations make society increasing complex and interdependent. Changes happen more quickly and on a larger scale than ever before. Advancements in the provision of products and services often exceed the distribution of such information to the consuming public. The quality of products and services is an essential ingredient to the overall quality of family and community life. The benefits of technological advancements are greater than before, and so is the potential for harm to consumers if these advancements are not accompanied by adequate information, education, and protection.

Moreover, the hierarchy of consumer participation depicts a persistent and pervasive relationship between micro-level consumer decision making in one specific area and citizen/consumer behavior at the more general levels of consumer and political participation. Consumer knowledge and decision making are not a distinct body of knowledge and mode of action. Rather, they are embedded in broader patterns of economic, social, political and community participation, problem perception, knowledge seeking, complaining, and decision making. This phenomenon, in turn, creates a comparative advantage some and places others at a relative disadvantage in the marketplace. It follows, then, that consumer information, education and protection programs must be sensitive to the broader societal context and to the characteristics, competence and needs of specific consumers. We suggest that those interested in effective consumer information, education and protection take a page from their colleagues in marketing and advertising and begin to segment the market and target strategies accordingly.

REFERENCES

Bannister, Rosella and C. Monsma (1982). Classification of Concepts in Consumer Education, Monograph 137, Cincinnati, OH: Southwestern Publishing Company.

Herrmann, Robert O. (1988). Consumer Choice in the American Economy. Cincinnati, Oh.: South-Western Publishing Co., (1988).

Hyman, Drew (1989). Consumer Education Policy Options Based on the Hierarchy of Consumer Participation and Consumer Proficiency in Decision Making. University Park, Pa.: The Consumer Services Information Project, unpublished report to the PA Public Utility Commission.

Hyman, Drew and John Shingler (1990). "The Hierarchy of Consumer Participation: Knowledge and Proficiency in Telecommunications Decision Making," Journal of Consumer Affairs, Vol. 24 No. 2, (Summer).

Maynes, E. Scott ed. (1988). The Frontier of Research in the Consumer Interest, Columbia, Mo: American Council on Consumer Interests.

Milbrath, Lester W. (1985). Political Participation. Chicago: Rand McNally and Co.

________, and M.L. Goel (1982). Political Participation. 2nd ed. N.Y.: University Press.

Robinson, Jean R. (1988). "The Content of a College-University Course in Consumer Education." in F. Scott Maynes and ACCI Research Committee, The Frontier of Research in the Consumer Interest, Columbia, MO: American Council on Consumer Interests, 857-873.

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[4] More extensive discussion of these topics and organizations involved is contained in Herrmann (1988), Chapter 3, "Gathering and Evaluating Information," and Chapter 5, "Remedies for Consumer Problems."

Chart 1
SUMMARY OF RECOMMENDED CONSUMER EDUCATION PROGRAMS FOR THE DIFFERENT TYPES OF CONSUMER GROUPS

		PROTECTION				EDUCATION AND INFORMATION				LEADERSHIP		
	%	Product and Service Qual. and Safety	Complaint Inv. and Mediation	Brochure and Lit. Review	Consumer Guardian Program	Basic Consumer Education	General Consumer Education	General Consumer Infor.	In-Depth Consumer Training	Consumer Adviser	Leadership Education	Leader Network
INFLUENTIALS												
6. Cosmopolitans	4%	YES	YES	YES				YES	YES	YES	YES	YES
ACTIVES												
5. Opinion Leaders	9%	YES	YES	YES				YES	YES	YES	SOME	SOME
4. Knowledgeable Consumers	9%	YES	YES	YES			YES	YES	SOME	SOME	SOME	
DEPENDENT												
3. Moderately Dependent	28%	YES	YES	YES			YES	YES				
2. High Dependence	22%	YES	YES	YES	YES	YES	YES	YES				
NON-DECISION MAKERS												
1. Non-Decision Makers	28%	YES	YES	YES	YES	YES	YES	YES				

Chart 2
SUGGESTED IMPLEMENTATION ORGANIZATIONS AND AGENCIES FOR UTILITY CONSUMER EDUCATION, INFORMATION, AND PROTECTION PROGRAMS

		PROTECTION				EDUCATION AND INFORMATION				LEADERSHIP		
	%	Product and Service Qual. and Safety	Complaint Inv. and Mediation	Brochure and Lit. Review	Consumer Guardian Program	Basic Consumer Education	General Consumer Education	General Consumer Infor.	In-Depth Consumer Training	Consumer Adviser	Leadership Education	Leader Net work
INFLUENTIALS												
6. Cosmopolitans	4%	NEW,BCP PUC,CO	PUC,CO BCP	PUC,CO NEW				CO,MEDIA ORGS,puc other govt.	PUC CO	PUC orgs	PUC orgs	PUC orgs
ACTIVES												
5. Opinion Leaders	9%	"	"	"				"	"	"	"	
4. Knowledgeable Consumers	9%	"	"	"				"	"	"	"	
DEPENDENT												
3. Moderately Dependent	28%	"	"	"	co,orgs MEDIA, puc oca,bcp,dpw	"						
2. High Dependence	22%	"	"	"	PUC,CO dpw,dca	SCH,media,co orgs,doa,dca	geo,doa,dca "	"				
NON-DECISION MAKERS												
1. Non-Decision Makers	28%	"	"	"	PUC,CO dpw,dca	SCH,media,co orgs,doa,dca	"	"				

KEY (CAPS = Primary role; lower case = Secondary role)

BCP = Bureau of Consumer Protection, Attorney General
CO = Utility Companies and private corporations.
DCA = Department of Community Affairs and Community Action Agencies.
DOA = Department of Aging and Area Agencies on Aging.
DPW = Department of Public Welfare and local CBA's, MH/MR, C&Y, WIC, etc.
GEO = Governor's Energy Office.
MEDIA = Mass media--newspapers, T.V., radio, magazines.
NEW* = A new office or function.

OCA = Office of Consumer Advocate
ORGS = Consumer organizations. e.g. PCCC, PennPIC, PAJE, CEPA, etc.
PUC = Public Utility Commission and Bureau of Consumer Services.
SCH = Elementary and secondary schools, and higher education.

*NEW offices or functions suggested are: (A) Utility Consumer Service & Product Health & Safety unit; and (B) Utility Consumer Information & Education Review & Advisory Committee. These units could be associated with one of several existing agencies e.g. the PUC, OCA, or the BCP.

The Economics Of Status: How Relative Deprivation Affects The Demand For Apparel

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This paper analyzes the effect of social status deprivation, on the demand for apparel. An analytical model that incorporates the concept of relative status deprivation and which is also consistent with standard axiomatic consumer theory is utilized. The results of the empirical analysis validate the model's hypotheses that lower status households will have higher demand for apparel, as well as a larger income elasticity as compared to higher status households.

INTRODUCTION

Status seeking has long been recognized as a major influence in the behavior of consumers. Sociologists as well as Economists have addressed the issue of the impact of status seeking on the demand for "luxury" goods. Examples of the interest of sociologists can be traced back to Max Weber (1968). Sociologists have traditionally explained the difference in demand patterns among different social groups in terms of basic motivations, which they assummed would be different for different groups of people. Some of these motivations were given highly descriptive terms such as "impulse renunciation" (a characteristic of the middle class), "impulse following" (a characteristic of the lower class), "compensatory consumption" (a means to make up through the consumption of a luxury good the defficiencies in an otherwise lacking existence)(Davis and Dollard, 1948).

Early Economists also recognized the importance of Social Status as a determinant of economic behavior. According to Becker (1974), Bentham listed among the determinats of wants the pleasures of a good name and Marshall stressed the influence on productive economic activities of the desire for distinction. Thorstein Veblen (1899) , one of the founding fathers of the American Institutionalist School theorized, that a person's consumption behavior is shaped in an interdependent context where the consumption of a good by an individual depends as much on the intrinsic value of the good to the individual as it does on the way that such consumption alters the perception that of this individual society has. Unfortunately Veblen's observations and theory have not been as popular among Neoclassical Economists as they have been among other Social Scientists; probably because he never bothered to express his theory within the context of orthodox economic modeling. He as a member of the Institutionalist school did not care very much for the highly axiomatic structure of Economics as a discipline. Becker (1974) for instance, refers to him as a sociologist. According to some authors (Becker, 1974; Frank 1985) more recent attempts to include attributes of others to explain economic behavior such as "bandwagon", "relative income", "snob" effects, have not been unified under an encompassing theory, nor have they captured the dominance of social interaction.

New theoretical developments such as Becker's concept of "social income" (Becker,1974), and Frank's (Frank, 1985b) fit of Veblen's theories into the theoretical framework of utility maximization, have rekindled new interest in the formal study of models where behavioral interdependence by utility maximizing rationally-behaved individuals is the norm rather than the exception. One such type of behavior is status-seeking.

In this paper I will apply some of the concepts mentioned above, to study the effect of status-seeking on the demand for apparel in the United States. First I will use a theoretical framework, then I will propose an empirical model that, I hope, will corroborate the hypothesis set forth by the theoretical construct.

THEORETICAL FRAMEWORK

Following Davis'(Davis, 1959) theory of Relative Deprivation, suppose that we have a population that can be partitioned in one or more ways into different classes, according to a "value" on which there is consensus among the population. (e.g. young vs. old, wealthy vs. non-wealthy). This partition will then divide the population into deprived and non-deprived. When a person (ego) compares himself with another (alter) and perceives alter to have a larger degree of deprivation, then ego will experience utility in the form of "relative gratification". On the other hand if ego perceives alter to be in a less deprived position, then ego will experience disutility in the form of "relative deprivation". Ego's membership in a particular relatively non-deprived category provides utility to him only when he is able to identify alter as belonging to a relatively deprived category. Economic theory predicts that he will spend resources to identify alter as belonging to such group, and the amount he is willing to spend is directly related to his degree of relative gratification.

One common way of partitioning society is in terms of Social Class. For the purposes of this paper I will use Albert Reiss' concept of Social Class (Reiss, 1961) that is centered on the individual's occupational role, as reflected in the individual's command of human and financial resources, decision making authority, opportunity for personal fulfillment and satisfaction through upward mobility, and service to society. In as much as these things reflect what society regards as important, this partition criterion will divide the population in groups among which a hierarchy of relative deprivation will exist.

Again, since the utility derived from relative gratification is exploited only when membership to the different hierarchies is known, resources will be use to identify individuals with their hierarchical status. In a society with a few members, continuous social interaction makes it possible for its members to identify the social position of everybody else economically (that is spending as few resouces as possible in this activity). An example of such behavior could be gossipping which is more common in small social groups. However in larger societies, this methods would be very costly, so signaling devices are used. A group of such signaling devices is made up of "positional goods".
Positional goods are according to Frank (Frank,1985b), "those things whose value depends relatively strongly on how they compare with things owned by others", that is those goods whose consumption is going to determine your perceived position in the deprivation hierarchy. Since ego and the members of his group can not force other members of a relatively deprived group to consume a positional good that will identify them as members of a relatively deprived good, the option left to alter's group is to distinguish itself by consuming a differentiating basket of positional goods. One such good being apparel.

The demand for apparel in the United States has been extensively studied (Dardis, et.al.1981;Hager, and Bryant, 1977;Norum, 1989; Winakor,1989; Deweese, 1987;Nelson, 1989). The theoretical approach to these studies has been either the traditional utility maximization consumer theory, or the household production function theory as proposed by Becker. These approaches have been lacking in that the importance of apparel as a signaling device, i.e, a positional good has been either incorporated into the all encompasing black box called "tastes", or just ignored.

The above mentioned omission is no small thing. For the average individual, expenses on apparel would be minimal if he/she did lived in a Robinson Crusoe island. He/she would not have to worry about "looking good", "making a good first impression", etc. That the positional nature of clothing is common knowledge can be proven by the way Madison Avenue advertises apparel.

The apparel consumer faces the following utility maximization problem:

$$\text{Max } U = U(X, Y, \Phi(X))$$

$$\text{S.T.} \quad P_x X + P_y Y = M$$

Where: X=consumption of apparel,
Y=Consumption of other goods,
$\Phi(X)$=Status provided by consumption of apparel·
$\Phi(x) = \int \phi(X)\,dX$,

From the above discussion we can think of status as an ordinal relationship. Then $\Phi(X)$ can be seen as the percentile positioning in the population which is achieved through the consumption of apparel. Thus $\int \phi(X)\,dX$ is the density that generates such ranking when x_o = subsistence level consumption of apparel, and x_a= the amount consumed. The solution to the maximization problem is given by[2]:

$$\frac{MU_x + \phi(X)}{MU_y} = \frac{P_x}{P_y} \qquad \text{...........(1)}$$

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[2] For simplicity of exposition, the utility function is assumed to be strongly separable in X, Y, and $\Phi(X)$.

Following the principle of diminishing marginal utility, changes in utility due to an upward move in the status ladder will be an inverse function of the degree of relative deprivation. Thus we can expect the demand for apparel to vary directly with the degree of relative deprivation. That is, $\phi(X)$ becomes smaller as deprivation decreases, and so does the demand for apparel. An inspection of equations (2) and (3) makes the above argument clear:

$$P_x = \left[\frac{MU_x + \phi(X)}{MU_y}\right] P_y \qquad \text{........(2)}$$

$$P_x = \left[\frac{MU_x}{MU_y}\right] P_y \qquad \text{........(3)}$$

Equation (2) represents the demand for apparel when apparel is a positional good. Equation (3) represents the demand for apparel when apparel is not a positional good, i.e, $\phi(X)$ has become null.

The hypothesis implied by the model is:

H1: A person who is relatively deprived of status will have higher demand for apparel relative to the nondeprived counterpart.

METHODOLOGY

To test the working hypothesis it is necessary to estimate an empirical demand model which allows for variations in social status across individuals. To this end a variable which can be used as a proxy to indicate an individual's social position has to be employed. The Socio-Economic Status Index (SES), as developed by the Bureau of the Census (Bureau of the Census, 1960) will be used in this instance.

The SES ranks 3-digit level Census Occupational Titles. The ranking is done by averaging for each occupational title the median income and education of its membership. These median averages are then used to rank occupations. Socioeconomic classes are then created by partitioning the population of ranked occupations into sextiles (for this study). Thus an individual will be assigned to a particular group depending on its occupation.

The above method is consistent with our definition of social class as well as with the concept of relative deprivation, in as much as the higher ranked occupations are the ones that are held in higher esteem by society as reflected by their command of financial and human resources.

Previous research Dardis, et.al. 1981;Hager, and Bryant, 1977;Norum, 1989; Winakor, 1989;Deweese, 1987; Nelson, 1989), suggests groups of variables that are important determinants of the demand for apparel, among these are: Family composition, geographical region, race, house tenure, occupation and working status, and prices and income. These variables will be used except for prices, which will be assumed constant given the cross-sectional nature of the data. Also given that education enters into the demand structure through its role as the determinant of occupation, and since our SES rankings are based on occupation, there is no need to enter education as an explicit regressand, even though it will be implicit in the SES variables.

The demand equation to be estimated is:

$$\begin{aligned} LAPPAR = {} & \beta_0 + \sum \beta_i LTOTEXP + \sum \beta_j F + \sum \beta_k H \\ & + \sum \beta_l R + \sum \beta_m S + \beta_2 ABOVMED \\ & + \beta_3 BLACK + \varepsilon \end{aligned}$$

Where: LAPPAR = Log of apparel expenditures.
LTOTEXP = Log of total expenditures.
F = Family Variables.
H = Housing tenure related variables.
R = Geographical region variables.
S = Socioeconomic status variables.
ABOVEMED = Reflects a household with income above the median relative to its own SES.
BLACK = Household headed by a black person.

The family variables include the log of the age of the reference person (LAGEREF), the log of family size (LFAMSIZE), categorical variables to indicate: A family with no children (NOCHILD), a family with children (CHILD), a female headed household (FEMHEAD), a household where the wife works part time (WWIFEPT), a household where the wife works fulltime (WWIFEFT), and a household where the head has retired (RETIRED). Previous research generally indicates that the signs for these variables will be:

Negative for LAGEREF: Because apparel is a durable an inventory tends to accumulate through a person's lifetime, at least for items which are not as fashion or body-change sensitive such as overcoats, as this inventory grows the need to add to it through an expense decreases. From an status seeking point of view a negative sign should also be expected, as a person goes through life the need to signal his status through positional goods will decrease because as a person ages its geographical mobility diminishes and so the person has had more time to establish its relative position through other means. A positive sign is expected from LFAMSIZE, a larger family has larger needs and our dependent variable is household based rather than individual based. A married couple is expected to spend less than single persons, even when there are no children (NOCHILD) because they have already selected a mate and apparel as a positional good looses some of its attractiveness, one of the benefits of signaling a high social position is the attractiveness of such position to potential mates (Frank,1985). It is expected that families with children (CHILD) will spend less in apparel than single people when we control for family size. Families where the wife works are expected to show higher apparel expenses than non working wife households (Dardis, Soberon-Ferrer, Tsay, 1989).

Housing variables are expected to show that demand is lower for households who are making mortgage payments on their home (MORTGAGE) than those who own their home but have no mortgages, partly because the mortgage payment reduces their budgeting flexibility as well as their disposable income. The demand by those who rent is expected to be higher than those who own without a mortagage. The reason is that home ownership confers status in our society, thus homeowners being relatively less status deprived than renters do not value the positional ability of apparel as highly as renters (principle of diminishing marginal utilities).

Regional variables are supposed to show the effects of conditions which are geographically determined, such as weather. Thus one would expect that households located in regions where climatological conditions make neccesary to own different summer and winter outfits will show higher demand for apparel. Rural areas where the need for positional signaling is reduced because of low population density will show lower demand.

We have six socioecomic status variables to indicate membership in any of the classes, these are: HHIGH, LHIGH, HMED, LMED, HLOW, LLOW, which are listed in descending order. The leftout category in our estimation will be LLOW, thus all comparisons are made with regards to this the relatively most deprived category. The hypotheses put forth in the previous section imply that the signs for these variables be negative, i.e, demand will be lower for each of the other categories.

To estimate this demand model a double log model specification has been selected. The reasons for the choice are: a)A double log specification has been the functional form specification of choice for previous research. Thus the estimation results of this effort can be compared to that previous research. b) It is convenient, the estimated coefficients can be directly interpreted as elasticities. c) It provides good fit, research using this same data set (Chern and Soberon-Ferrer, 1987) used the Box-Cox transformation to obtain the best fitting functional form. The income elasticity provided by the Box-Cox transform is very similar to the one obtained here.

The method of estimation was ordinary least squares (OLS). It is known that if the error terms in the regression model are non-spherical, OLS is theoretically inferior to Generalized Least Squares (GLS) since the GLS estimates are best linear unbiased. For this estimation problem, there is a possibility that heteroskedasticity might be a problem, since it is a cross-sectional analysis (Green, 1990) that involves a family spending dependent variable (Prais and Houthaker, 1955). This possibility was explored. Heteroskedasticity was found to be present, but not of a large magnitude. According to Griliches and Rao (Kennedy, 1985), the nonsphericalness of the error terms must be quite severe to make the estimable generalized least squares estimators superior to their OLS counterparts. So OLS was used, however instead of using the usual t and F tests for significance, which would no longer be valid because the OLS estimated variance-covariance matrix of the estimates is incorrect and produces biased results, an alternative estimator for this variance-covariance matrix proposed by White (Green,1990) which is robust to heteroskedasticity problems was used to compute the appropiate t-tests. To test for the significance of groups of variables, the Wald test was used. This test is also robust with respect to non-spherical disturbances (Green,1990). Results are presented in tables 1 and 2.

Table 1: Ordinary Least Squares Results Corrected for Heteroskedasticity

Variable	Coefficient	T-ratio	Pr(t:>x)
INTERCEPT	-4.88108	-13.303	0.00000
LTOTEXP	1.29118	36.385	0.00000
WELFARE	0.05535	0.729	0.46598
ABOVEMED	0.16929	5.649	0.00000
LFAMSIZE	0.09809	1.856	0.06342
LAGEREF	-0.28962	-6.065	0.00000
NOCHILD	-0.11693	-2.050	0.04038
CHILDREN	- 0.16022	-2.040	0.04130
RETIRED	-0.05187	-0.847	0.39725
FEMHEAD	0.49129	7.573	0.00000
WWIFEPT	0.10156	2.668	0.00763
WWIFEFT	0.08615	2.593	0.00951
MORTGAGE	-0.08354	-2.173	0.02978
RENTER	0.08128	1.825	0.06807
NORTHC	0.14808	3.895	0.00010
NORTHE	0.13270	3.325	0.00089
SOUTH	0.02637	0.650	0.51575
RURAL	0.00696	0.119	0.90557
HHIGH	-0.30866	-3.846	0.00012
LHIGH	-0.23302	-4.278	0.00002
HMED	-0.10083	-2.398	0.01647
LMED	-0.20046	-5.036	0.00000
HLOW	-0.06960	-1.837	0.06615
BLACK	0.16835	3.205	0.00135

$R^2 = 0.56$ N=3770

Table 2: Wald Tests for Significance of sets of Variables

Variables	Wald Statistic[1]
Family	120.23[2]
Housing	19.65[2]
Region	24.15[2]
Social Status	32.17[2]

[1] The Wald Statistic follows a Chi-Sq.Distribution with d.f. =Number of restrictions.

[2] Significant at better than .001

The data used to estimate the model come from the 1980-81 Bureau of Labor Statistics' Consumer Expenditure Survey (CES), the sample used represent a subsample of 3769 households who completed a full year of expenditure reports. The decision to use households with a full year's worth of data, rather than the quarterly samples reported by BLS, rests on the assumption that clothing consumption might not be randomly distributed throughout the year but may respond to seasonal stimuli (such as end of summer sales, etc.). The year of data reported does not necessarily correspond to a calendar year (January-December) but for example it might go from the second quarter of 1980 to the first quarter of 1981. The assumption that prices were constant is necessary since the data has been aggregated and we do not know the average price paid for the bundle of goods (apparel) purchased, since the parts of the bundle were bought at different times. However this assumption is not farfetched as 1980-1981 was a period marked by recession, and by very moderate change in prices.

ANALYSIS OF RESULTS

Since the estimated equation has a double log especification the coefficients of the continuous variables can be interpreted as elasticities. In order to interpret the coefficients of the dummy variables as differences in consumption it is necessary to to use the following transformation:

$$\Delta\% = e^{\beta_i} - 1$$

Where: $\Delta\%$ = Percent change in consumption due to dummy variable=1;
β_i = Coefficient for dummy variable.

The coefficients have the predicted signs for all the variables, however some of them are not significant. Welfare which represents wether a person received welfare or not, shows a positive sign but it is not significant. Being that one would associate receiving welfare with relative severe status deprivation the non significance of the coefficient probably reflects the fact that most welfare recipients are classified in the lower SES groups, which show high significance and the hypothesized sign. This would mean that after controlling for social class being a welfare receipient does not increase feelings of relative deprivation. The implications of this deserve further analysis.

Female headed households show a significantly larger demand for apparel (63% larger than male headedhouseholds), this probably reflects that the level of expenditure needed to overcome relative deprivation is larger for females than it is for males. Remember that relative deprivation exits whnever a group is partitioned according to some criteria. Women are more likely than men to be partioned according to criteria that are dependent upon physical appeareance.
Thus this result is consistent with the model. Since apparel can enhance physical appearance we would expect women to consume more apparel than men. Also notice that people who have above median incomes with respect to their own SES groups have larger expenditures (18% larger), than those who are below the median. This is also consistent with the model since we are controlling for social class and apparel is considered a normal good, so people with higher incomes have higher demands.

Black households spend more (18%) than non-black households. The result is not surprising since it coincides with most other research on the demand for apparel. This result has usually been explained in other research in terms of either a history of discrimination in the acquisition of other goods such as housing (Alexis, 1962), or that since the characteristics associated with race are highly visible, when enhanced by clothing, serve to demarcate the boundaries of Afro-americans as an ethnic group (Barth, 1969). Our model would explain the difference in terms of relative status deprivation. Even when SES is controlled for, within a given SES group blacks would be relatively deprived of status as a consequence of real or perceived racial prejudice. This status deprivation increases the marginal utility of apparel thus increasing their demand level.

The coefficients for the Socioeconomic Status variables show that all the socioeconomic groups spend from 26% (corresponding to the highest SES group) to 6% (corresponding to the next to lowest SES group) less in apparel than the most deprived group. This finding is in keeping with the working hypothesis.

Table 2 shows that the groups of variables employed were all significant, this reiterates findings of previous studies, as well as underlines that the explanatory power of SES variables is significant in the presence of the other variables. To that extent this study reinforces and expands on previous research.

CONCLUSSION

This paper has presented a formal model of demand that explicitely incorporates status seeking in the utility function. The concept of relative deprivation is used to theoretically introduce social status induced consumption of apparel. The theoretical model gives plausible explanations to empirically observed consumption patterns. The demand for apparel was found to be larger for female headed households, single people, people who live in rented housing, and households where the wife works. It was also found that people in the lower socioeconomic strata have a larger demand for apparel and that such demand can be explained in a utility maximization context.

Future research in this area could include the analysis of other positional goods, such as automobiles or housing, or services, such as food away from home.

REFERENCES

Alexis, Marcus (1962). Some Negro-White Differences in Consumption American Journal of Economics and Sociology. 21.pp11-28

Barth, Frederick (1969). Ethnic Groups and Boundaries Boston: Little, Brown and Co.

Becker, Gary S. (1974). A Theory of Social Interactions, Journal of Political Economy, Vol.82,no.6 pp1063-1093.

Bureau of the Census (1960). Methodology and Scores of Socioeconomic Status. Bureau of the Census Working Paper Series, no 15.
Chern W.S.and Soberon-Ferrer (1987) . Engel Curve Estimation for a Complete System of Aggregate Expenditure Components. Proceedings of the XXXIII ACCI Annual Conference.

Dardis R, Soberon-Ferrer H, Tsay Y. (1989) Determinants Of Household Expenditures for Services AACI Conference Proceedings 1989.

Dardis, R. Derrick, F. and Lehfeld A. (1981) Clothing Demand in the United States: A Cross Sectional Analysis. Home Economics Research Journal, Vol 10, no 2. pp 212-221.

Davis, A and Dollard J. Children Of Bondage, Washington D.C. American Council on Education, 1948.

Davis, James A. (1959). A Formal Interpretation of the Theory of Relative Depravation, Sociometry, 22, pp280-296

Deweese Gail (1987). The Impact Of Married Women's Employment On Household Expenditures For Clothing. PhD dissertation. Virginia Polytechnic Institute and State University.

Frank, Robert H. (1985). The Right Pond. New York. Oxford University Press.

Frank, Robert H. (1985b). The Demand for Unobservable and Other Nonpositional Goods, The American Economic Review 1985. Vol 75 no 1. pp101-116.

Green, William (1990). Econometric Analysis, McMillan, New York

Hager C. J. and Bryant K. (1977). Clothing Expenditures of Low Income Rural Families. The Journal of Consumer Affairs. Vol 11, no 2. pp 127-132.

Kennedy Peter (1985). A Guide to Econometrics, MIT Press. Cambridge, Mass.

Nelson Julie A. (1989). Individual Consumption Within the Household: A Study of Expenditures on Clothing. The Journal Of Consumer Affairs. Vol 23, no 1. pp 21-44

Norum Pamela S.(1989). Economic Analysis of Quarterly Household Expenditures on Apparel. Home Economics Research Journal. Vol 17 no 3. pp228-240.

Prais, S.J. and Houthtakker, H.S. (1955). The Analysis of Family Budgets, The University Press, Cambridge, Mass.

Reiss Albert J.(1961) Occupations and Social Status, The Free Press of Glencoe, New York,1961.

Veblen, Thorstein. (1899). The Theory of the Leisure Class. New York, McMillan.

Wagner Janet (1986). Expenditures for Household Textiles And Textile Home Furnishings: An Engel Curve Analysis. Home Economics Research Journal Vol 15. no 1.pp21-31.

Weber Max (1968). Economy and Society: An Outline of Interpretive Sociology. New York. Bedminster Press, 1968.

Wheaton, William, C.(1977). A Bid Approach to Housing Demand. Journal of Urban Economics, Vol 4, pp200-217

Winakor Geitel (1989). The Decline in Expenditures for Clothing Relative to Total Consumer Spending, 1929-1986. Home Economics Research Journal, Vol.17 no 3, pp195-215.

TIME CONSTRAINTS AND CONSUMER DECISION-MAKING: AN EXAMINATION OF THE CONDITIONAL EFFECT OF TIME PRESSURE

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Increasing time pressures in American society are changing the context in which consumer decision-making occurs. This study examined differences in the use of recommended dietary practices under high and low time pressure. The results suggest that individuals who are involved with nutrition and under high time pressure follow recommended practices to a similar degree as those under low time pressure. However, when individuals are less involved, those under high time pressure are less likely to follow recommended practices than those under low time pressure.

Two decades ago, Linder (1970) suggested that economic growth has resulted in a growing scarcity of time. Since that time, much has been written about the quickening pace of American life. The entry of women into the work place over the last several decades has produced stress, role conflict, and work overload for individuals, particularity women, who have heavy responsibility in both the work and family roles. Hochschild (1989) has labeled this phenomenon "the second shift," where time spent in child and home care equals a second job.

Given this major change in American lifestyles, it is surprising how little attention has been given by social scientists to the relationship of time scarcity and decision-making. Linder (1970) argued that as the scarcity of time increases, the quality of decisions is likely to decline. It would be expected that persons under time pressure would use a different decision-making strategy than those under less time pressure. In other words, time pressure may create a different context in which decisions are made. Yet little empirical work has been done to explore this and related hypotheses (Berk and Berk 1983, Bronner 1982, McGrath 1988).

The purpose of this paper is to explore the impact of time pressure on consumer decision-making and consumer behavior. Specifically, we investigate whether the relationships between consumer decisions and factors which affect these decisions are conditional on time pressure. Implications for decision-making theory and consumer education will also be discussed.

THEORETICAL CONSIDERATIONS

Empirical work regarding time pressure is scattered. Much of the work has focused on time allocation (e.g. Blaylock and Smallwood 1987, Robinson 1988). The relationship between time pressure and decision-making has generally been neglected (McGrath 1987).

A few studies have been conducted on how persons make choices under time pressure. The best known are the experimental studies by Wright (1974) which investigated how persons make decisions under time pressure. Wright found that individuals under time pressure simplify the task by being selective in the information they use. Those under time pressure also placed greater weight on negative information about alternatives.

Bronner (1982) has conceptualized decision-making under time pressure as behavior under stress. He argues that persons making decisions when time is scarce are often under stress. They recognize that their freedom of action is limited, and they may be uncertain what to do because they have limited time to gather information. Over time individuals learn to adapt to time pressure by developing compensatory mechanisms which leads to mastery of stress.

It is evident from these studies that individuals under time pressure are likely to develop a different strategy for solving problems and making choices than those who have more time. The empirical work that has been conducted has provided only a sketch of the compensatory mechanisms individuals use in adapting to time pressure. At the very least, individuals under time pressure are likely to simplify tasks by setting priorities, being selective concerning the information they use, and reducing alternatives.

Social psychological models of behavior and decision-making posit a set of relationships between perceptions (e.g. attitudes, beliefs), cognitions (e.g. knowledge, information) and behavior. If individuals under time pressure do indeed use different strategies to make decisions and choices, the basic relationships of these social psychological models are likely to differ by the degree of time pressure individuals experience. We propose that the relationships between perceptions, cognitions and behavior will be stronger when individuals are under time pressure. Individuals with limited time are likely to simplify their decision-making tasks by setting priorities, giving primary attention to those activities in which they are most interested or involved. Given the pressure to simplify, reduce stress, and therefore adapt to time constraints, they are more likely to engage in those activities they care about as well as more likely not to do those activities to which they are not fully committed. This formulation suggests a conditional model, where the strength of the basic relationships are dependent on time pressure. This approach is substantially different than most of the previous studies in which time pressure was considered a direct effect on decision-making.

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To date we were able to locate only one study which considered time pressure as a conditional variable. Based upon a different set of hypotheses, Iyer (1989) found that shoppers with high knowledge who were under time pressure were the most likely to buy only those items they planned to buy at the grocery store, and to minimize impulse purchases. Our study extends this area of inquiry by investigating whether time pressure alters the relationship of both cognitions and perceptions with consumer behavior.

THE STUDY SETTING

To determine if time pressure produces different contexts for decision-making, a set of relationships from an earlier study of food behavior (Houts 1986, Houts and Warland 1989) were reexamined. Since meal preparation is an activity which is often subject to time pressure, particularly in households where the woman is working, we considered this activity one that would provide a good setting to test our hypothesis. The food study investigated factors that were related to recommended dietary practices, i.e., the extent to which persons make a conscious effort to eat specific foods which are considered beneficial to health, and avoid foods which are thought to be harmful to one's health. The recommended dietary practices studied are similar to the protective health behaviors labeled "eating habits" by Hayes and Ross (1987) and the health-promoting behaviors studied by Harris (1987).

The social psychological factors related to the use of recommended dietary practices included both cognitive and perceptual factors. Following Assael (1987) and Krugman (1965), those involved with making nutritious food choices would be concerned about their health, concerned about what they ate, perceive risks in not eating the right foods, consider themselves well informed about nutrition, and seek information about nutrition.

Health and nutrition concerns, self-assessed knowledge about nutrition, and information seeking were found to be positively related to the recommended dietary practices (Houts 1986). Those who were engaged in protective food behavior were concerned about their health and were willing to seek out information about how to eat properly. Our hypothesis is that these relationships will be much stronger for individuals who are time pressed when they prepare meals than those who report they are less time pressed.

PROCEDURES

The data were obtained from a national survey conducted by telephone with 458 adults who were primarily responsible for the preparation of food in their households. The data were collected in the summer of 1985. As would be expected, women outnumbered men 414 to 44 indicating, as many studies have shown, that women continue to assume the role of household food preparer. The response rate was 48 percent. Other details of the survey can be found in Houts (1986).

The measure for recommended dietary practices was a scale derived from seven questions on the selection and avoidance of food items. The questions were very similar in format to those in the widely-cited Prevention Index (Harris 1987). The seven items represent foods or specific food constituents (e.g. fiber) that are frequently discussed in the media as important for sound nutrition and health. The respondents were asked how hard they tried (try very hard, try somewhat, don't worry about it) to avoid salt, sugar, cholesterol and calories, and to eat vegetables, fruit, and fiber. The range of the index was from zero to 14 with a mean value of 9.93. The nine items loaded on one factor and the Cronbach's alpha was .76.

Time pressure was measured by an index constructed from four items. These interviewed were asked how often (frequently, sometimes, seldom or never) they fixed quick meals because they were rushed, fixed easy-to-prepare meals to save bother, bought carry-out foods, and felt rushed for time when fixing meals. The Cronbach's alpha was .67.

Health and nutritional concerns were measured by two questions. Respondents were asked if they were more concerned about what they ate than they used to be. The responses were coded: not really, maybe, and definitely. They were also asked how often (frequently, sometimes, seldom or never) they checked their menus to see if they were nutritionally balanced.

Self-assessed nutritional knowledge and information seeking were measured by two items. Those interviewed were asked how much (almost nothing, not too much, some, quite a bit, a lot) they felt they knew about nutrition. Self-assessed nutritional knowledge is the respondent's belief about what he or she knows rather than an actual measure of nutritional knowledge. A study by Feick (1981) does indicate, however, that self-assessed knowledge is related (r=.43) to measured knowledge. Information seeking was measured by asking how often (frequently, sometimes, seldom or never) they check nutrition and ingredient labels to see what's in a food product.

The two concern items, self-assessed knowledge, and the information seeking measure were also combined into a four item nutritional involvement index. Since the metric of these items differs, the items were standardized before the index was constructed. The Cronbach's alpha for the index was .63.

Age and education were also included since they have been shown to be related to nutrition behavior (Calnan 1985, Hayes and Ross 1987, Herrmann, Warland, and Feick 1984, Seeman and Seeman 1983). Those interviewed were asked what was their age on their last birthday and what was the highest grade of school they completed.

To test the conditional relationship, the sample was divided into a high time pressure group (N=99) and a lower time pressure group (N=349).[2]

The time pressure index ranged from zero to eight. Those with scores between six and eight were placed in the high time pressure group, and those with scores of less than six were placed in the lower time pressure group. Scores between six and eight represent food preparers who responded "frequently" to two, three, or four of the four items on the time pressure index. This division also represents a natural break point where the difference between the two groups was greatest. For more details concerning this procedure, see Warland and Sample (1973).

RESULTS

If the two groups differ with respect to the relationships between recommended dietary practices and the various independent variables, there will be evidence that time pressure produces different contexts for decision-making. To assess the relationships of the four variables with the recommended dietary practices, each was regressed on dietary practices for both the two time pressure groups. The results are reported in Table 1. All eight regression coefficients are statistically significant. However, the degree of association between these variables and recommended dietary practices is much stronger for the high time pressure group. The R^2 statistic is two to four times higher for the high time pressure group than the lower time pressure group. Furthermore the z statistics for the differences of the regression coefficients for the two groups are statistically significant for all variables. This also indicates that the effect of the four independent variables on recommended dietary practices is stronger under high time pressure than under lower time pressure.

When the four belief, concern, and information seeking measures were combined into a single nutritional involvement index, the difference between the two time pressure groups remained (Table 2). The index explained 18 percent of the variance for the lower time pressure group and 46 percent of the variance for the high time pressure food preparers. These differences also remain when age and education are added to the equation. It may be noted that age has a significant relationship to recommended dietary practices for the lower time pressure group. The coefficient is highly significant and R^2 increases from .18 to .26. Age is not significant for the high time pressure respondents. Education is not statistically significant for either time pressure group.

TABLE 1. Estimated Regression Coefficients and Tests of Coefficient Difference for Recommended Dietary Practices, by Group.

Variable	High Time Pressure $\hat{\beta}$	High Time Pressure R^2	Lower Time Pressure $\hat{\beta}$	Lower Time Pressure R^2	Z Statistics
Self Assessed Nutritional Knowledge	2.07*	.27	.86*	.06	3.10[a]
Constant	1.81		7.48		
Health Concern	2.46*	.23	.84*	.06	3.31
Constant	2.15		8.32		
Nutritional Concern	1.94*	.21	.87*	.07	2.56
Constant	5.07		8.61		
Label Reading	2.33*	.29	1.29*	.14	2.50
Constant	3.00		7.56		

*Significant at p<.001

The Z statistics are for group comparisons of regression coefficients based on $z = \hat{\beta}_H - \hat{\beta}_L / S\ (\hat{\beta}_H - \hat{\beta}_L)$, where subscripts H and L refer to High and Lower Time Pressure Coefficients, respectively. Values greater than 2.00 can be considered significant.

TABLE 2. Regression of Recommended Dietary Practices on the Nutritional Involvement Index, by Group.

Variable	High Time Pressure $\hat{\beta}$	High Time Pressure R^2	Lower Time Pressure $\hat{\beta}$	Lower Time Pressure R^2	Z Statistics
Model 1					
Nutritional Involvement Index	.87*	.46	.46*	.18	3.76[a]
Constant	8.82		10.30		
Model 2					
Nutritional Involvement Index	.86*	.46	.51*	.26	3.18
Age	.01		7.05*		
Education	-.02		-.02		
Constant	8.53		8.20		

*Significant at p<.001

[a] Values greater than 2.00 can be considered significant.

An illustration of the nature of the different relationships between the two time pressure groups is presented in Table 3. The recommended dietary practices index and the nutritional involvement index were divided into three equal groups (higher, midrange, and lower). This procedure produced a three-by-three table for each time pressure group. The results suggest that if individuals are involved with nutrition, the degree to which both the high and lower time pressure groups follow the recommended dietary practices is quite similar. However, when individuals are less involved and under high time pressure, they are much less likely to follow recommended dietary practices than their lower time pressure counterparts.

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[2] There are other ways to statistically establish a conditional relationship. We have also analyzed these data using a nonlinear, nonadditive regression model suggested by Fisher (1988) which yielded similar results to those reported here. We have selected the group difference approach to facilitate presentation.

TABLE 3. Distribution of Recommended Dietary Practice Scores by Level of Involvement for High and Lower Time Pressure Groups (percent).

	Lower Involvement (1) (Percent)	Midrange Involvement (2) (Percent)	Higher Involvement (3) (Percent)
Lower Time Pressure			
Lower Dietary Practice Scores	40	30	7
Midrange Dietary Practice Scores	37	34	34
Higher Dietary Practice Scores	23	36	59
High Time Pressure			
Lower Dietary Practice Scores	80	35	7
Midrange Dietary Practice Scores	18	42	41
Higher Dietary Practice Scores	2	23	52

Among the highest involvement cells (see column 3), the distribution for recommended dietary practices is very similar regardless of time pressure (7, 34, and 59 percent versus 7, 41, and 52 percent). However, the distributions are quite different for the "lower involvement" cells of the table (see column 1). For the high time pressure group, 80 percent of the lower involved respondents were also in the lowest recommended dietary practices cell. Conversely only 40 percent of the less involved lower time pressure group reported the lowest recommended dietary practices scores. Apparently the simplification process in food choice-making is most pronounced for the less involved food preparers under high time pressure. They are likely to do very little about recommended nutrition and health behavior.

DISCUSSION

The analysis of data clearly supports the major proposition of this paper: the relationship between health and nutrition concerns, beliefs, information seeking, and recommended dietary practices are substantially stronger for those under high time pressure than for those under lower time pressure. Although the evidence is indirect, it appears that those under time pressure do simplify their decision-making by setting priorities and behaving accordingly. If they are committed to health and nutrition, they are just as likely to follow recommended dietary practices as those under less pressure. However if they are not fully committed to nutrition, they are far less likely to eat as nutritionists and health professionals recommend.

We suspect that this is one of many possible relationships that are likely to exist between time pressure, decision-making, and behavior. Time pressure has been found to be related both positively and negatively to performance (Freedman and Edwards 1988), to be related negatively to information search (Bronner 1982) and to be related negatively to enjoyment of the task (Robinson 1988). Most likely there are a number of components to the simplifying strategies individuals use to adapt to time pressure. Research focused on this process will help define these strategies. In any case, models of behavior and decision-making that have been used in the past may need to be modified to take into account the effects of time pressure on decision-making.

The most important implication for both consumer education professionals and nutrition and health professionals is that it may be very difficult to change the behavior of those persons who are time pressed. Food preparers who are under time pressure and who are not fully involved in nutrition do not follow recommended dietary practices. It is likely that it will be particularly difficult to change the behavior of these time pressed individuals.

The simplification process appears to produce more extreme behavior, and given the fact that those under time pressure are also likely to seek out less information, are less willing to do things they don't enjoy, and are less attentive to information, this group creates major challenges for consumer education and health professionals. New approaches will need to be developed. One possible strategy may be to emphasize risks and negative consequences, since previous research has demonstrated those under time pressure try to reduce risk and are more attentive to negative information (Wright 1974).

It seems likely that the number of persons who will experience higher levels of time pressure will increase. Demographic projections suggest that those households with persons living alone, with both husband and wife working, and with single parents are most likely to increase in the next decade. These are the household types in which the incidence of time pressure is high. As a larger proportion of the population becomes time pressed, current models of decision-making and consumer behavior become less useful. New models of decision-making and consumer behavior will need to be developed, and new strategies to get information effectively to high time pressed persons will be required. There is much work to do.

REFERENCES

Assael, Henry (1987), Consumer Behavior and Marketing Action, 3rd ed., Boston: Kent.

Berk, Richard A. and Sarah Fenstermaker Berk (1983), "Supply-Side Sociology of the Family: The Challenge of the New Home Economics," in Ralph H. Turner and James F. Short, Jr. (eds.), The Annual Review of Sociology, 9:375-395.

Blaylock, James R. and David M. Smallwood (1987), "Intrahousehold Time Allocation: The Case of Grocery Shopping," Journal of Consumer Affairs, 21 (Winter):183-201.

Bronner, Rolf (1982), Decision Making Under Time Pressure, Lexington, MA: Lexington Books.

Calnan, Michael (1985), "Patterns in Preventive Behavior: A Study of Women in Middle Age," Social Science Medical, 20:263-268.

Feick, Lawrence F. (1981), Consumer Search for Nutrition Information, Unpublished Doctoral Dissertation, University Park, PA: The Pennsylvania State University.

Fisher, Gene A. (1988), "Problems in the Use and Interpretation of Product Variables," in Common Problems/Proper Solutions, J. Scott Long (ed.), Beverly Hills: Sage: 84-107.

Freedman, Jonathan L. and Donald R. Edwards (1988), "Time Pressure, Task Performance, and Enjoyment," in The Social Psychology of Time, Joseph E. McGrath (ed.), Beverly Hills: Sage: 113-133.

Harris, Louis and Associates, Inc. (1987), Prevention in America 5: Steps People Take - or Fail to Take - For Better Health, Emmaus, PA: Rodale Press.

Hayes, Diane and Catherine E. Ross (1987), "Concern with Appearance, Health Beliefs, and Eating Habits," Journal of Health and Social Behavior, 28 (June):120-130.

Herrmann, Robert O., Rex H. Warland, and Lawrence F. Feick (1984), "Patterns of Nutrition Concerns and Dietary Constraints Among Adult Women," Journal of the American Dietetic Association, 84:1478-1480.

Hochschild, Arlie (1989), The Second Shift, New York: Viking.

Houts, Sandra S. (1986), Social Learning Theory and Food Behavior, Unpublished Doctoral Dissertation, University Park, PA: The Pennsylvania State University.

Houts, Sandra S. and Rex H. Warland (1989), "Rotter's Social Learning Theory of Personality and Dietary Behavior," Journal of Nutrition Education, 21 (August):172-179.

Iyer, Easwar S. (1989), "Unplanned Purchasing: Knowledge of Shopping Environment and Time Pressure," Journal of Retailing, 65 (Spring):40-57.

Krugman, Herbert E. (1965), "The Impact of Television Advertising: Learning Without Involvement," Public Opinion Quarterly, 29 (Fall):349-356.

Linder, Staffan Burenstam (1970), The Harried Leisure Class, New York: Columbia University Press.

McGrath, Joseph E. (ed.) (1988), The Social Psychology of Time, Beverly Hills: Sage.

Robinson, John P. (1988), "Time-Diary Evidence About the Social Psychology of Everyday Life," in The Social Psychology of Time, Joseph E. McGrath (ed.), Beverly Hills: Sage: 134-148.

Seeman, Melvin and Seeman, Teresa (1983), "Health Behavior and Personal Autonomy: A Longitudinal Study of the Sense of Control in Illness," Journal of Health and Social Behavior, 24 (June):144-160.

Warland, Rex H. and John Sample (1973), "Response Certainty as a Moderator Variable in Attitude Measurement," Rural Sociology, 38 (Summer):174-186.

Wright, Peter L. (1974), "The Harassed Decision Maker: Time Pressure, Distraction and the Use of Evidence," Journal of Applied Psychology, 59:555-561.

DISCUSSION: FACTORS AFFECTING CONSUMER DECISION-MAKING

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We have just heard three papers all concerned with factors affecting consumer decisions. The first paper was broader than the second two in scope, dealing with segmenting the consumer market in order to better target consumer information and education. The second dealt with incorporating the "black-box" variable status into an economic demand model, and the third looked at how the intervening variable, time pressure, affects decisions about following recommended dietary practices. I'll discuss the papers in their order of presentation.

Market segmentation is not a novel idea. Indeed, the researchers note that segmentation is a very important strategy for successful marketing and advertising of products and services. However, using segmentation strategies normally used by the selling side of the market to develop consumer profiles appropriate to target consumer information is welcome. We see this type of segmentation occurring more in the media with increases in public service announcements about drugs, health related issues, literacy, and the like.

This research actually lays out a segmentation matrix of consumers and identifies types of media or groups that best serve the interests of the consumers in each group. I especially liked the distinction between consumer information--facts and figures, and consumer education--a more general idea of teaching consumers how to make better decisions.

As I read about the different consumer decision making segments: influentials, actives, dependent, and non-decision makers, I couldn't help but draw analogies between those categories and the VALS (Values and Lifestyles) typologies developed through psychographic research. I see relationships between the four broad consumer segments and the two VALS categories of inner and outer directed consumers. I also see analogies between the further breakdown of consumer decision makers into six categories, and the nine VALS typologies ranging from survivors to the integrated individuals. VALS has been very useful in segmenting the market by lifestyle rather than simple demographics, and I can see the same possible success for these consumer categories. In general, the study is very useful in doing what market segmentation is all about: choosing targets, media, types of messages, and even timing of appropriate messages to different groups of consumers.

This paper was clearly based on an earlier study which developed the hierarchy. I had a chance to look at the study, presented at ACCI in 1988, and have some comments about the development of the segments on which the authors base their conclusions. It appears that the researchers developed the scales using age and education as principle demographic characteristics, as well as characteristics defining the level of knowledge about telecommunications. From questions an index of decision making was developed. I am very unclear as to how the index was developed, even after going back to one of the sources cited. In addition, since there are quite a few similarities between typical VALS segments and the consumer decision making segments, it might be a good idea to use more variables in the analysis. Demographic characteristics such as income and family size are also important descriptors, as are values and attitudes. Perhaps the ability to segment consumers will be enhanced if these characteristics are included in the consumer profiles.

Overall, this paper shows how a market segmentation technique, usually used by the selling side of the market, can be used to help consumers. It strengthens the idea that a firm knowledge of both the consumption and production sides of the marketplace are important for those who want to make consumers better off.

The second paper dealt with the effect of status seeking on the demand for apparel in the United States. This was the most difficult paper for me to evaluate. It stimulated my intellectual curiosity and raised many questions in my mind.

Soberon--Ferrer lays out an economic model in which relative deprivation is included through a measure of social status. The lower the social status, the higher the relative deprivation. The higher the relative deprivation, the higher clothing expenditures should be as clothing is a "positional good", that sends signals of status. What is particulary commendable about this research is it attempts to incorporate into economic theory a traditionally black-box variable, status. Thus, status is not simply incorporated into "tastes and preferences" but explicitly included in a utility function as a satisfaction yielding element. This implies that clothing plus the status provided by clothing yield utility.

Results indicate that calculated income elasticities are a bit higher for lower status persons. Thus, the null-hypothesis that relative deprivation does not affect the income elasticity of demand for clothing is rejected. The second hypothesis, that lower status individuals spend more on clothing is not testable, however, given the empirical specification. The coefficients in the regression equation are interpreted directly as elasticities. Since, the status terms are entered into the equation as interaction terms with income, we only know what a percentage change in expenditures will be given a percentage change in income, given social class. The social class variables would have to be entered independent of income to test the second hypothesis.

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The interpretation of the independent variables are plausible, though not the only ones, given the empirical specification. The poor are known to pay higher prices, and to the extent they do, expenditures on clothing may be increased, without any conscious knowledge of the effect of its purchase on status. In addition, specification of the equation as the budget share of total expenditure allocated to clothing and estimating a system of equations may identify the tradeoffs between clothing and other expenditures.

I also wonder if there is a problem with multicollinearity and whether the author examined this possibility. Family size and number of children are probably collinear. So is being above median income and the income measure. It could be that the income measure and social class measures are collinear given the definition of how social class is defined--by occupation implying command of human and economic resources, etc. There are many different measures of social class. A next step in the research process might be to use another measure of social class that may not be so collinear with income (if you can find one) and to repeat the study.

As an aside, I urge the author to stay away from potentially sexist remarks such as those found in the explanation of clothing expenditures and female headed households and the reliance on Becker's theory of marriage to explain some of the results. I'm not so sure that there is much empirical evidence supporting this theory.

Overall, the paper was an excellent step at expanding economic theory to include variables usually excluded due to their fuzziness.

The third paper dealt with how time pressure affects decision making about food choices. I laud the authors for trying to account for another one of those "black-box variables." Basically, the researchers postulate that time pressured persons may elicit different decision making strategies than those that are not so pressured. These include simplifying, setting priorities, being selective about information, and reducing alternatives from which to choose. They posit that the relationship between perceptions, cognitions, and behavior, is stronger for time pressured persons. In general, the researchers conclude that this is the case. However, the relationship works in only one direction only. If time pressured people do not have strong perceptions and knowledge about nutrition they are less likely to elicit behavior that includes eating well. If they do have strong perceptions and knowledge that proper nutrition is a good thing, there isn't much difference in the behavior of the time pressured versus non-time pressured group. The authors conclude that it may be difficult to change the behavior of the time pressured group who are not concerned with nutrition.

While this may be a plausible explanation, I can't help but think that it may not be the antecedents of behavior that are affecting behavior, but the availability of nutritious choices for the time pressured group. Could it be the case that non-time pressured persons have more time to prepare meals rather than eat convenience foods that are less nutritious in general? Or, the time pressured group may just grab what is available from vending machines and the like, also less likely to be nutritious choices. Instead of trying to alter the antecedents of behavior, maybe a better route to go is to offer more quick, nutritious choices. Get at the behavior itself, instead of trying to change something that will be difficult. For example, in the building I work in, the soda machines were replaced with juice machines (after much to do). People in a rush now purchase the juice, a more nutritious choice. I think the research needs to go more in depth and examine food choices, rather than just asking about nutrition in general.

A few other general points--the response rate was 48 percent. We keep urging researchers to take a look at non-respondents to better validate findings. Few do it. It appears that factor analysis was used to generate the indices, am I correct? I would like to see some of the results. Perhaps you did address some of the more dissaggregated food behaviors I mentioned, but this isn't clear since you don't present them anywhere. How were your variables measured? No descriptive statistics were included in the paper.

With the above mentioned limitations aside, the paper does address an important and growing concern in our society. Time pressure does not seem to be going away. How do we address the problems of getting information to consumers who are forced to make decisions in pressured situations?

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FLEXIBLE SPENDING ACCOUNTS:
ECONOMIC AND NON-ECONOMIC PARTICIPATION FACTORS

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The objectives of this research were to investigate important factors in the decision of an employee to participate in a flexible spending account (FSA) and to learn more about the financial decision-making process. Data were collected from 320 full-time employees of a major employer in late 1988. Chi-squares and t-tests were used to identify statistically significant differences between FSA participants and non-participants. Participants were more likely than non-participants to be more educated, male, older, married, to have higher incomes, and to have children under 25 years of age. Participants were also more apt to have experienced higher medical expenses the previous year and to expect higher medical expenses the following year than non-participants. Participants paid relatively more attention to the risk of not putting enough money in the FSA and thus losing the tax break while non-participants paid more attention to the paperwork required to get reimbursed, the record keeping required, and the uncertainty regarding the amount of future medical expenses.

Traditionally, employer benefit plans have been relatively uniform with the benefits offered to all employees within one company being quite similar. The lone choices tended to be whether or not to participate in selected parts of the plan and, in the case of life insurance, the extent of participation. The majority of these plans were designed to meet the needs of employees in a society dominated by families where only the husband was gainfully employed. However, in response to the diverse needs of a radically changing workforce, many employers are now reevaluating this traditional approach to fringe benefit plans.

Over the past 35 years, there have been dramatic demographic changes in the American family which have significantly altered the composition of the workforce (Employee Benefit Research Institute, 1987). In 1955, 60 percent of American households consisted of a working father, a mother who was not gainfully employed, and two or more children. By 1986, only four percent of all households conformed to this pattern (Quinones, 1986). The number of working mothers with children under 18 years of age stood at 18.6 million in 1985--almost triple the number 25 years earlier (U.S. Bureau of the Census, 1985). Growth has been most rapid among working mothers with children under age 6. In addition, many of these working mothers are also single parents. According to Johnson 1986, family composition can presently be categorized as:

- married with both spouses working (45%)
- single, head of household with no dependents (25%)
- married with husband working and wife not gainfully employed (20%)
- single, head of household with dependents (10%)

In addition to a changing workforce which has provided an incentive to alter benefit plans, Section 125 of the Internal Revenue Code (entitled Cafeteria Plans) granted the means to give employees a greater degree of choice in benefits. Although interest surrounding flexible benefit plans was peaked with the passage of Section 125 in 1978, the fate of flexible spending accounts was uncertain until passage of the Tax Reform Act of 1986. The 1986 Act expanded the definition of a cafeteria plan to include a plan that allows a choice between various qualified nontaxable benefits. Finally, the Act specified that salary reduction contributions to a cafeteria plan are generally not considered wages for employment tax purposes (Ernst and Whinney, 1986).

A flexible spending account (FSA) is a type of cafeteria benefit plan offered by employers that gives participants a choice between taxable cash and pre-tax payment (or reimbursement) of eligible, tax-favored benefits. Some of the expenses an FSA can cover are:

- Health plan premiums
- Medical expenses not covered by health insurance that the Internal Revenue Service considers deductible (IRC 213 expenses)
- Dependent care expenses (within Section 129 guidelines)
- Qualified group legal services (within Section 120 guidelines)

In most cases, FSAs are funded through a salary reduction agreement (Johnson, 1986). From the employee's perspective, money is withheld from his salary and deposited in the FSA. When an eligible expense occurs, the employee pays the expense and then files for reimbursement through his FSA. Using this benefit, the employee gets immediate tax relief.

Significant governmental restrictions have been placed on FSA plans which have important implications on personal finances. These restrictions should cause employees to consider carefully before contributing to an FSA. Included in these restrictions are:

- Salary reduction elections are made individually for each type of benefit at the beginning of each plan year. Unless an employee experiences a change in family status, these elections cannot be changed.
- No more than $5,000 can be contributed to each type of benefit.
- Contributions for each type of benefit must be kept separate from money allocated for every other type of benefit in

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individual sub-accounts. Benefits of one type cannot be reimbursed with contributions to another sub-account.

-- Money left in the FSA at the end of the plan year cannot be carried forward into the next year nor can it be returned to the employee as taxable income. The employee must "use it or lose it."

Expenses paid through a FSA cannot be used as either an itemized deduction or a tax credit. In addition, the final responsibility for the tax status of filed expenses rests with the employee who is liable for all potential taxes, penalties, and interest charges. Essentially, an FSA is a tax-planning mechanism that may be used if offered through an employer. Like most other financial planning strategies, this one is potentially beneficial but also carries risks.

RESEARCH DESIGN

Perhaps because widespread inclusion of FSAs in employer benefits plans is a very recent phenomenon, these researchers could find no published, academic literature relating to the determinants of FSA participation. Therefore, the objective of this research was to investigate what economic and non-economic factors are important in the decision of an employee to participate in a FSA. Since this plan is a tax-savings strategy, it was hypothesized that there would be a positive relationship between income and FSA participation. Education, a second demographic variable, was expected to be positively related with participation as the literature on innovation indicates there is a positive relationship between willingness to try new ideas and level of education (Rogers, 1983). It was also expected that men would be more likely to participate than women based on findings that tax-related financial management tasks tend to be male-oriented (Hampton, Greninger, and Kitt, 1982).

On a priori grounds, it was hypothesized that those employees who had higher out-of-pocket expenses eligible for reimbursement through a FSA would be more likely to contribute to a FSA. Additionally, it was expected that there would be a positive relationship between interest in saving tax dollars and FSA participation.

A secondary objective of this study was to learn more about the decision-making process used in making the FSA decision. It was expected that respondents who participated in a FSA would spend more time on the decision and use more information sources in making the decision than those who did not participate.

Data for this study were collected from a random sample of 660 full-time faculty and staff at The University of Texas at Austin in November, 1988. This sample was utilized because it represented a large, intact group for which FSAs had just been added to the fringe benefit package. These employees had made their decision regarding FSA contributions to a medical reimbursement account and/or a dependent care reimbursement account no later than August 31, 1988. A self-administered questionnaire was mailed and a reminder letter was sent to those who had not returned the questionnaire within two weeks. Using this procedure, 373 questionnaires were completed for a 57% response rate. However, 53 respondents failed to answer either one or both of the questions used to measure FSA participation. Therefore, only 320 questionnaires were useable for investigating FSA participation.

The questionnaire used for data collection was developed by the principal investigators and pretested by selected members of the sample population. The revised instrument included questions focusing on 1) FSA participation, 2) FSA decision-making factors, 3) past and expected future out-of-pocket expenses eligible to be reimbursed through a FSA, and 4) demographic information. FSA participation was measured based on the responses to the following two questions:

1. How much are you contributing to your medical/dental reimbursement account each month? Do not include premiums for your group insurance.
2. How much are you contributing to your child/dependent care reimbursement account each month?

For the purposes of this paper, a respondent was categorized as a FSA participant if he contributed to either (or both) of the FSA sub-accounts. A respondent who was not contributing to either sub-account was categorized as a non-participant.

Analysis of the survey data included frequencies, means, and medians to describe the demographic profile of the total sample as well as the profiles of FSA participants and non-participants. Chi-squares and t-tests were employed to identify statistically significant differences between FSA participants and non-participants. In addition, factor analysis was used in an attempt to group a series of decision-making factors; however, this procedure did not prove useful.

RESULTS

Respondents in this study were primarily white (86%), married (64%), and highly educated. Nearly one-fourth of the respondents had completed a Bachelor's degree, and over two-fifths held advanced degrees. The sample was evenly divided between males and females, and the mean age was 41 years. Forty-four percent of the respondents had children under the age of 25. The expected median family income before taxes for 1988 was reported to be approximately $35,000.

Nearly one-fourth on the respondents in this sample were contributing to a FSA for medical care while less than five percent were participating in a FSA for dependent care. However, 21 percent of the respondents actually expecting dependent care costs in the upcoming year were contributing to the dependent care subaccount. Only six persons (<2%) were contributing to both the medical and the dependent care sub-accounts. When categorized as being either FSA participants or non-participants, 26% of the respondents were participants.

The average monthly contribution of participants was $68 for medical expenses and $182 for dependent care expenses. When asked whether they felt the amount of their contributions was low, about right, or high, two-thirds of the respondents felt they were "about right" with one-fourth saying their contributions were "low." The following were reported by at least 30% of the sample as being the most important factors considered in making the decision on FSA participation:

1. The risk of not using all of the FSA contribution and then losing the money.
2. Not knowing the amount of future medical expenses.
3. The risk of not putting enough money into the FSA program and losing the tax break.

Independent variables that were significantly related with FSA participation are reported in Table 1 and Table 2. For discussion purposes, these variables have been divided into demographic variables, past and expected expense variables, and decision-making variables.

Demographic Variables

As hypothesized, both family income before taxes and level of education were positively related to participation in a FSA. The mean income of participants was nearly $20,000 higher than that of non-participants. The average level of education for both the respondent and the respondent's spouse was significantly higher among FSA participants compared to non-participants. Also as expected, male respondents were more likely to contribute to a FSA than were female respondents. One-third of the males were participating while less than one-fifth of the females were contributing to a FSA.

Other significant demographic variables included age, marital status, and the presence of children under 25 in the family. The mean age of FSA participants was 3.5 years higher than that of non-participants. Over 30% of married respondents compared to less than 20% of single respondents participated in a FSA. In addition, 35% of respondents with children under 25 years of age were FSA participants compared to only 20% of those who did not have children under age 25.

Past and Expected Expense Variables

Several questions were asked which focused on both past and expected future medical care and dependent care expenses. While the questions relating to dependent care costs were not statistically significant, three of the variables relating to medical care expenses were positively associated with participation in a FSA. Participants experienced approximately $244 higher medical expenses the previous year and expected $380 higher medical expenses in the current year than did non-participants. Among FSA participants, the respondent's family members had visited the dentist three more times over the past three years than had non-participant family members.

Decision-making Variables

Perhaps the most interesting findings are in the area of decision making regarding FSA participation. Participants reported spending over one hour more than non-participants in making the FSA decision. When the time of others who helped with the decision was included, the total time spent on the decision was nearly two hours more for participants than for non-participants. Focusing on married respondents, if the husband spent more time than the wife on the FSA decision, the respondent was more likely to contribute to a FSA than if the wife spent more time than the husband or than if the spouses spent equal time on this decision. From a slightly different perspective, if the spouses spent equal time on the decision, the respondent was less likely to contribute to a FSA than if either of the spouses spent more time than the other on the decision.

Respondents were asked where they got information about the FSA program. The most frequently mentioned sources were a FSA booklet distributed by the employer (82% used this), a personnel newsletter (79%), co-workers/friends (40%), employer-sponsored orientation meeting (29%), and personnel office employees (27%). FSA participants were significantly more apt to use the FSA booklet and personnel office employees in making this decision than were non-participants. Ninety-five percent of participants in contrast to 81% of non-participants reported using the FSA booklet, while 44% of participants and 25% of non-participants discussed the FSA decision with personnel office employees. In addition, FSA participants used significantly more sources of information than did non-participants.

When asked to rate how much attention they paid to various factors in making the FSA decision, there were statistically significant differences between participants and non-participants on four out of seven factors. Participants paid relatively more attention to the risk of not putting enough money into the FSA program and thus losing the tax break while non-participants paid relatively more attention to 1) the paperwork required to get reimbursed through the FSA, 2) the record keeping required when using the FSA, and 3) the uncertainty about the amount of future medical expenses.

DISCUSSION

The area of employee benefits is changing rapidly with greater choice being given to employees. While there are many advantages to a system that allows employees to select the benefits which best fit their needs, there is also a level of risk involved if the employee does not make appropriate decisions. Since this arena of economic choice is relatively new, this research investigated the economic and non-economic factors associated with the decision to participate in one part of a cafeteria benefit plan--flexible spending accounts.

It was found that, at least in the first year of availability through the sample employer, participation in a FSA was relatively low even though the overall income and education level for the sample were relatively high. Only 26% of the respondents were contributing to the medical and/or dependent care reimbursement accounts. It should be noted that the participation rate in the random sample was somewhat higher than the rate for the total population. The low rate of participation could be due to a combination of many reasons, particularly as it relates to the dependent care account. The dependent care credit taken when filing taxes may provide greater financial benefit to low income employees rather than contributing to the FSA. Other reasons for the low participation rate might include low expected out-of-pocket expenses, the hassles of record keeping and paperwork associated with reimbursement, lack of knowledge about this benefit plan,

TABLE 1. Variables Significantly Related with Flexible Spending Account (FSA) Participation Using T-Test Analysis.

Variables	Total Sample $\overline{X}$	Participants $\overline{X}$	Non-participants $\overline{X}$
Age in years	41.1	43.8	40.2**
Education of respondent in years	13.0	13.5	12.8***
Education of spouse in years	12.7	13.2	12.5***
Family income before taxes	$42,743	$57,048	$37,652***
Out-of-pocket medical expenses last year	$165	$345	$101***
Expected out-of-pocket medical expenses this year	$610	$890	$510***
Number of times family went to dentist over past 3 years	7.5	9.9	6.6*
Hours respondent spent on FSA decision	2.1	3.0	1.8***
Total hours spent on FSA decision	3.2	4.5	2.7***
Number of information sources used	2.7	2.9	2.6*
Risk of losing tax break[a]	2.5	2.8	2.4**
Paperwork required for reimbursement[a]	2.7	2.3	2.8***
Record keeping required[a]	2.7	2.4	2.8*
Uncertainty about future medical expenses[a]	3.2	3.0	3.3*

* Significant at the .05 level.

** Significant at the .01 level.

*** Significant at the .001 level.

[a] 1=no attention, 2=very little attention, 3=some attention, 4=very much attention

TABLE 2. Variables Significantly Related with Flexible Spending Account (FSA) Participation Using Chi-Square Analysis.

Variables	X^2	Degrees of Freedom
Sex	9.1**	1
Marital status	6.6*	
Children under 25 years of age	8.6**	1
Husband or wife spent more time on FSA decision	15.8***	2
Respondent or spouse spent more time on FSA decision	12.7**	2
Used FSA booklet	8.3**	1
Discussed FSA decision with personnel office employees	10.3**	1

* Significant at the .05 level.

** Significant at the .01 level.

*** Significant at the .001 level.

and the method(s) used by the employers to implement the plan and to inform employees about FSAs.

In this study, many of the variables concerning dependent care expenses were not statistically significant while comparable measures regarding medical care expenses were. There are at least two possible explanations. One is that there were very few persons in the sample (and in the total population) that were contributing to the dependent care sub-account. They were vastly outnumbered by those who were contributing to the medical care sub-account. Secondly, estimating dependent care expenses is generally not as difficult as predicting future medical care expenses. Therefore, one of the major problems in using a FSA for medical expenses is not as burdensome when used for dependent care reimbursement.

For researchers interested in marital decision-making practices, two issues emerged from this study. The finding that FSA participation was more frequent when the husband spent more time on the decision than the wife was not surprising based on previous research. However, the results indicating that higher FSA participation occurred when either of the spouses took charge and spent more time than the other rather than spending equal time on the decision could have interesting implications.

This study of decision-making in the area of employee benefits should be considered a starting point in an emerging area. There are numerous issues that will be of concern to consumer economists and related professionals which will have both educational and policy implications. Further research is needed to evaluate the costs and benefits of flexible spending accounts as well as to investigate how successful participants are in using this type of financial strategy. Research involving employees from many companies and including financial management, socio-psychological, and knowledge variables is needed.

REFERENCES

Employee Benefit Research Institute (1987). America in Transition: Benefits for the Future. Washington, D.C.

Ernst and Whinney (1986). Tax Reform--1986. 142.

Hampton, Vickie L., Sue A. Greninger, and Karrol A. Kitt (1982). "Sexual Orientation of Family Financial Management Practices," Proceedings: 22nd Annual Western Regional Home Management-Family Economics Educators' Conference. 30-34.

Johnson, Richard E. (1986). Flexible Benefits. Brookfield, Wisconsin: International Foundation of Employee Benefit Plans.

Johnson, Richard E. (1986). "Flexible Benefit Plans," Employee Benefits Journal. (September): 2-7.

Quinones, Nathan (1986). "Baby Boom, Baby Bust: Impact on State and Local Educational Systems." Hearings on "America's Changing Demographic Profile," before the Subcommittee on Economic Resources, Competitiveness, and Security Economics of the Joint Economic Committee, Washington, D.C. (July 29).

Rogers, Everett M. (1983). Diffusion of Innovatives. 3rd edition, New York: The Free Press.

U.S. Bureau of the Census (1985). Statistical Abstract of the United States: 1986. 106th edition, Washington, D.C.

INFLATION AND THE CALCULATION OF LIFE INSURANCE NEEDS

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The element of inflation, or more precisely, the element of unpredictable inflation, can wreak havoc with life insurance requirements. It is obvious that an unpredicted jump in the inflation rate can reduce the "real" protection provided by a life insurance face value amount. But this paper will also show that even a predicted inflation rate will reduce the effective protection of a life insurance policy. Remedies and procedures for handling inflation in life insurance need calculations are offered.

Calculating the Life Insurance Face Value Amount

The major purpose of life insurance is to pay future expenses of financial beneficiaries in the event of death of the insured. For simplicity, assume the annual expenses (EXPENSES) are constant and that the financial dependents require coverage for Y years. The required face value amount is then:

$$(1)\ \text{FACE VALUE} = \sum_{j=0}^{j=y-1} \frac{1}{(1+r)^j} \times \text{EXPENSES.}$$

The factor r is the discount rate. Discounting begins with the second year, assuming that this year's expenses would be needed immediately if the insured were to die now. Use of a discount rate implicitly assumes that when the insured dies the life insurance face value amount will be invested and earn interest at an annual rate of r. The face value amount and its interest earnings will be gradually drawn down to meet the expenses of the financial dependents (beneficiaries).

How does the inflation rate enter the calculations of equation (1)? The answer is that the inflation rate can be explicitly incorporated or it can be ignored, and it doesn't matter which tactic is taken. If future inflation rates are ignored, then equation (1) is calculated in "real" terms. Future expenses are real (adjusted for inflation) dollars, and the discount rate is a "real" rate, typically 2 or 3 percent.

On the other hand, if the future annual inflation rate, i, is incorporated in the calculations in equation (1), then notice what happens:

$$(2)\quad \text{FACE VALUE} = \sum_{j=0}^{j=y-1} \frac{1}{(1+r)^j \times (1+i)^j} \times \text{EXPENSES} \times (1+i)^j.$$

Annual expenses are inflated by the compound inflation rate, as is the real discount rate [note that the nominal annual discount rate is (1+r) x (1+i), not (1+r+i)]. As is easily seen, equation (2) reduces to equation (1), so the face value amount is the same. Table 1 demonstrates this with an example.

Table 1. Alternative calculations of face value amount.

A. "Real" Amounts; equation (1)

YEAR:	1	2	3	4	5
EXPENSE:	$1000	$1000	$1000	$1000	$1000
DISCOUNT FACTOR:	$\frac{1}{1.03^0}$	$\frac{1}{1.03^1}$	$\frac{1}{1.03^2}$	$\frac{1}{1.03^3}$	$\frac{1}{1.03^4}$
DISCOUNTED AMOUNT:	$1000	$970.87	$942.60	$915.14	$888.49

FACE VALUE: $4,717.10

B. "Nominal" Amounts; equation (2)

YEAR:	1	2	3	4	5
EXPENSE:	$1000	$1050	$1102.50	$1157.63	$1215.51
DISCOUNT FACTOR:	$\frac{1}{(1.03^0)\times(1.05^0)}$	$\frac{1}{(1.03^1)\times(1.05^1)}$	$\frac{1}{(1.03^2)\times(1.05^2)}$	$\frac{1}{(1.02^3)\times(1.05^3)}$	$\frac{1}{((1.03^4)\times(1.05^4)}$
DISCOUNTED AMOUNT:	$1000	$970.87	$942.60	$915.14	$888.49

FACE VALUE: $4,717.10

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The Problem Created by Inflation

What's the problem, then, created by inflation? It is this: As the insured lives an additional year, inflation has occurred during that year. This increases all future projected expenses. The face value amount would have kept up with the year's inflation if the face value had been invested, but it wasn't since the insured lived. The face value amount is now inadequate to cover the higher expenses. Call this the "inflation effect."

Counterbalancing the inflation effect, however, is the fact that as the insured lives a year longer, there is one less year of insurance coverage needed, assuming that the insured wanted coverage for an initial y years. This reduces the needed life insurance face value amount. Call this the "term effect."

How the combined inflation effect and term effect influence the life insurance face value amount as the insured ages depends critically on the size of the past inflation rate and the original number of years of insurance coverage (Y). The higher the past inflation rate, the more likely that the inflation effect dominates the term effect, especially in the early years of the life insurance term. As the life insurance term nears its end, the term effect will become dominant. Likewise, the greater the original number of years of insurance coverage, the more likely that the inflation effect dominates the term effect for a longer period of the life insurance term.

Some Examples

Suppose an insured wants to provide protection for 22 years (e.g., until a child completes four years of college). Assume real (inflation-adjusted) expenses to be covered by life insurance are $1000 annually. Assume the real discount rate is 3 percent.

Figure 1 shows how the required face value amount changes over the term of the life insurance policy assuming different past inflation rates. The dotted line shows the original face value amount. The graph clearly shows that the higher the past inflation rate, the greater the increase in the required face value amount. Also, the increase in the face value amount occurs for a longer period of time the higher the past inflation rate. For example, with a past inflation rate of 6 percent, the face value amount peaks at year 9, whereas with a past inflation rate of 10 percent, the face value amount peaks at year 14.

Table 2 shows the annual required percentage rates of change in the face value amount based on the same assumptions as in Figure 1. The rates of change are negative for inflation rates of 0 to 3 percent. For each inflation rate above 3 percent, the required rate of change begins as positive and then gradually declines. However, in all cases the required rate of change is less than the

Figure 1. Life insurance requirements, initial $1000 annual need, 3% discount rate, 22-year term.

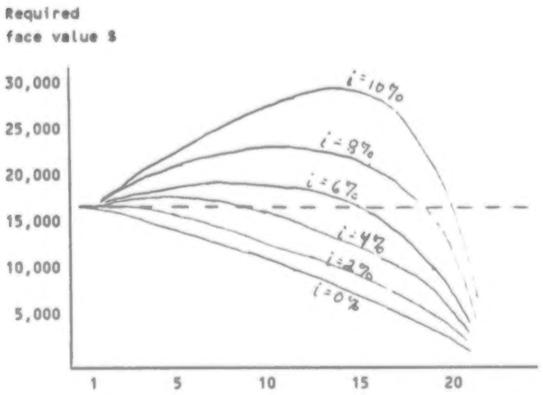


Table 2. Annual required rates of change in face value amount, 3% discount rate, 22 year term.

Change between years	0%	1%	2%	3%
	- - Annual Inflation Rate - -			
1- 2	—	—	—	—
2- 3	—	—	—	—
3- 4	—	—	—	—
4- 5	—	—	—	—
5- 6	—	—	—	—
6- 7	—	—	—	—
7- 8	—	—	—	—
8- 9	—	—	—	—
9-10	—	—	—	—
10-11	—	—	—	—
11-12	—	—	—	—
12-13	—	—	—	—

Change between years	4%	6%	8%	10%
	- - Annual Inflation Rate - -			
1- 2	0.6%	2.5%	4.5%	6.4%
2- 3	0.4%	2.3%	4.2%	6.2%
3- 4	0.1%	2.1%	4.0%	5.9%
4- 5	—	1.8%	3.7%	5.6%
5- 6	—	1.5%	3.4%	5.3%
6- 7	—	1.1%	3.0%	4.9%
7- 8	—	0.7%	2.6%	4.5%
8- 9	—	0.3%	2.2%	4.1%
9-10	—	—	1.7%	3.6%
10-11	—	—	1.1%	3.0%
11-12	—	—	0.4%	2.2%
12-13	—	—	—	1.4%
13-14	—	—	—	0.4%

"—" = change is negative.

All changes for years 14-22 are less than zero.

assumed annual inflation rate. Mirroring Figure 1, the number of years required before the rate of change turns negative increases as the assumed inflation rate increases.

What happens when the insured wants protection for a considerably longer time period, say 50 years? Figure 2 and Table 3 show the required face value amounts when the original term of protection is 50 years. Now the required face value amount increases under all inflation rates.[1] Again, the rates of increase are greater the greater the inflation rate, and the peak in the required face value occurs later the higher the inflation rate. For example, in the case of an annual inflation rate of 4 percent, the peak in the face value amount occurs at year 32 at $49,766, 1.898 times the original face value amount ($26,502). With an annual inflation rate of 10 percent, the peak in the face value amount occurs at year 42 at $399,262, over 15 times higher than the original amount! However, in all cases the annual required rate of change is less than the assumed annual inflation rate.

Implications

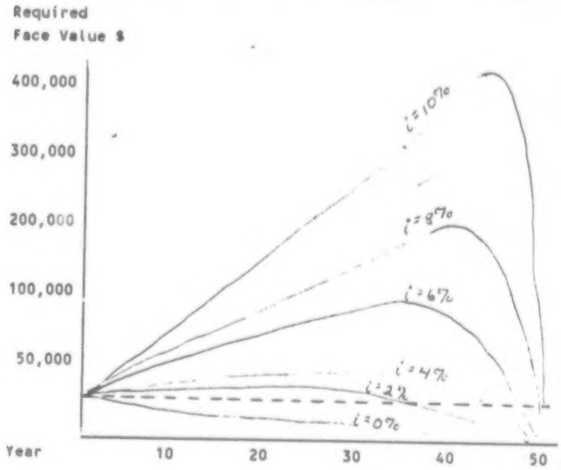
The annual inflation rate, as measured by the change in the Consumer Price Index, has averaged 5.7 percent during the past 25 years. If this average continues in the future, then the analysis presented here suggests that insureds who don't adjust their face value amount as the insured ages will find their coverage to be inadequate.

In the case of an original insurance coverage term of 22 years, the insured can ignore inflation as the insured ages if the annual inflation rate is 4 percent or less (and annual real protection amounts are constant). In this situation, the declining income needs resulting from a reduction in the insurance term as the insured ages will counteract the increase in costs from inflation. However, at inflation rates above 4 percent there will be significant increases in the required face value amount as the insured ages.

For longer original insurance coverage terms, such as 50 years, as the insured ages the insured will have to adjust the face value amount whatever the inflation rate in order to maintain the amount of "real" protection.

These findings imply that it is important for life insurance consumers to consider how their face value amount can be altered over time to account for past inflation. Only in certain cases will the declining term of insurance protection, resulting from the aging of the insured, counteract the increasing costs from inflation.

Figure 2. Life insurance requirements, initial $1000 annual need, 3% discount rate, 50-year term.



One way to increase coverage over time is to simply buy more protection. If this is the tactic used, then it is probably wise for the insured to purchase a "guaranteed insurability" option.

Another way to increase coverage with participating policies is to use dividends to purchase paid-up coverage. Presumably, the higher the inflation rate, the greater will be dividends and the more paid up coverage which can be purchased. However, there is no assurance that the amount of paid up coverage which can be purchased will be an adequate amount,

A third option is to purchase a life insurance policy with a cost-of-living rider, thereby allowing the policyholder to increase the coverage by the previous year's rate of inflation. However, as both Tables 2 and 3 show, this method will result in too big of an increase in face value amount, and the size of the over-purchase increases as the insured ages.

A problem with all of the above options is how to reduce coverage in the later years of the policy term. This makes universal life insurance appealing. The face value component of universal life insurance can perhaps be most easily manipulated to follow the required pattern of life insurance needs.

Conclusions

Inflation causes a particular problem for the calculation of the life insurance face value amount. The problem is not in accounting for the future inflation rate when calculating a face value amount. As demonstrated in this

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[1] Although not shown, the required face value amount increases through year 4 when the assumed annual inflation rate is 1 percent.

Table 3. Annual required rates of change in face value amount, 3%, discount rate, 50 year term.

Change between years	0%	2%	4%	6%	8%	10%
	- - -	Annual	Inflation	Rate	- - -	
1- 2	—	1.1%	3.1%	5.1%	7.0%	9.0%
2- 3	—	1.1%	3.0%	5.0%	7.0%	9.0%
3- 4	—	1.0%	3.0%	5.0%	7.0%	8.9%
4- 5	—	1.0%	3.0%	4.9%	6.9%	8.9%
5- 6	—	0.9%	2.9%	4.9%	6.9%	8.9%
6- 7	—	0.9%	2.9%	4.9%	6.8%	8.8%
7- 8	—	0.9%	2.8%	4.8%	6.8%	8.8%
8- 9	—	0.8%	2.8%	4.8%	6.7%	8.7%
9-10	—	0.8%	2.7%	4.7%	6.7%	8.7%
10-11	—	0.7%	2.7%	4.7%	6.6%	8.6%
11-12	—	0.6%	2.6%	4.6%	6.6%	8.5%
12-13	—	0.6%	2.6%	4.5%	6.5%	8.5%
13-14	—	0.5%	2.5%	4.5%	6.4%	8.4%
14-15	—	0.5%	2.4%	4.4%	6.4%	8.3%
15-16	—	0.4%	2.4%	4.3%	6.3%	8.3%
16-17	—	0.3%	2.3%	4.2%	6.2%	8.2%
17-18	—	0.3%	2.3%	4.2%	6.2%	8.2%
18-19	—	0.2%	2.1%	4.1%	6.1%	8.0%
19-20	—	0.1%	2.0%	4.0%	5.9%	7.9%
20-21	—	—	1.9%	4.0%	5.8%	7.8%
21-22	—	—	1.8%	3.9%	5.7%	7.7%
22-23	—	—	1.7%	3.8%	5.6%	7.6%
23-24	—	—	1.6%	3.7%	5.5%	7.4%
24-25	—	—	1.4%	3.4%	5.3%	7.3%
25-26	—	—	1.3%	3.4%	5.3%	7.1%
26-27	—	—	1.1%	3.2%	5.2%	7.0%
27-28	—	—	1.0%	3.1%	5.0%	6.8%
28-29	—	—	0.8%	2.7%	4.9%	6.6%
29-30	—	—	0.6%	2.5%	4.5%	6.4%
30-31	—	—	0.4%	2.3%	4.2%	6.2%
31-32	—	—	0.1%	2.1%	4.0%	5.9%
32-33	—	—	—	1.8%	3.7%	5.6%
33-34	—	—	—	1.5%	3.4%	5.3%
34-35	—	—	—	1.1%	3.0%	4.9%
35-36	—	—	—	0.7%	2.6%	4.5%
36-37	—	—	—	0.3%	2.2%	4.1%
37-38	—	—	—	—	1.7%	3.6%
38-39	—	—	—	—	1.1%	3.0%
39-40	—	—	—	—	0.4%	2.2%
40-41	—	—	—	—	—	1.4%
41-42	—	—	—	—	—	0.4%
42-43	—	—	—	—	—	—

"—" = change is negative.
All changes for years 44-50 are less than zero.

paper, the future inflation rate can be easily incorporated into the face value calculations. The problem arises with the post inflation rate which has occurred as the insured lives another year. When the insured lives another year and the inflation rate which occurred during that year is incorporated into the face value calculations, the new required life insurance face value amount can be higher than the initial amount. This potential problem is more troublesome the higher the past inflation rate and the longer the original insurance term.

There are two important implications for life insurance consumers and insurance agents. First, required life insurance face value amounts should be recalculated periodically, probably at least every five years, to take account both of the past inflation and changes in the insured's remaining term. At each recalculation, prices and costs should be updated based on the inflation which has occurred since the last calculation.
Second, in light of these findings, policies which allow the insured to easily change the face value amount, such as universal life, have a particular advantage. Changing the life insurance face value amount over the insured's life cycle to match the insured's needs and to reflect current costs will provide the correct amount of protection at the lowest cost.

The Default Risk of Adjustable Rate Mortgages:
A Preliminary Assessment of the Empirical Evidence

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ABSTRACT

This paper provides a preliminary assessment of the default risk of adjustable rate mortgages (ARMs) by using a subset of existing empirical studies as the basis for a series of simple simulations. The results of these simulations are not entirely consistent, however they do suggest that: (1) the default risk of ARMs is likely to be only slightly higher than that of fixed rate mortgages, (2) ARMs with 3 year adjustment terms will have slightly lower default rates than ones with 1 year adjustment terms, and (3) interest rate caps have no significant impact on default risk. The analysis also demonstrates the crucial role of mortgage prepayment in determining default risk.

I. INTRODUCTION

Since their widespread introduction in 1983, adjustable rate mortgages (ARMs) have become a fixture in the market. One obvious characteristic of ARMs is that they shift some of the interest rate risk from lenders to borrowers. Less clear, however, is ARMs implication for default risk. Of particular concern is the possibility that default rates of ARMs will be significantly higher than those of fixed rate mortgages (FRMs). The purpose of this paper is to explore the empirical evidence on the relative default risk of ARMs.

Empirical research on the determinants of mortgage default is voluminous. Recent studies include Campbell and Dietrich (1983), Foster and Van Order (1984), Jackson and Kaserman (1980), Lea and Zorn (1986), Manchester (1985), Peters et al. (1984b), Vandell (1978), Vandell and Thibodeau (1985), Webb (1982), and Zorn and Lea (1989). Unfortunately empirical studies such as these do not by themselves provide a clear measure of default risk. This assessment requires determining the probability that borrowers will default over the term of their mortgage, which depends on future values of the determinants of default. Because the determinants of default are treated as exogenous, empirical studies provide no method for directly predicting default in the future.

Researchers interested in assessing default risk have, consequently, been forced to consider alternative approaches. Most popular among the choices have been options pricing models, which characterize the time path of the determinants of default ("state" variables) using either theoretically motivated stochastic differential equations, or empirically derived interactions between the state variables.[2]

However both of these approaches face pragmatic problems since their computational difficulties increase dramatically with the number of state variables. This means in practice that the behavioral models underlying these analyses are quite simple, far more so than in the empirical works cited above. In an effort to more fully exploit the comparative richness of the existing empirical models of default, an alternative to the sophisticated options pricing models is pursued in this paper. In particular, the computational difficulties of these approaches are significantly reduced by considering only a small subset of possible time paths of the state variables.

The motivation for this exercise is twofold. First, to determine the extent to which the existing empirical models agree on their implications for default risk, and second, to provide a preliminary assessment of the relative default risk of ARMs.[3] The analysis consists of two sets of simulations conducted on a subset of the empirical models cited above. The first set of simulations attempts to assess the marginal impact of changes in the determinants of the relative default risk of ARMs by comparing the relative default rates of various ARMs (across different empirical models) for two basic states of the world. The second set of simulations attempts a limited assessment of simultaneous impacts by simulating ARM default rates over the historical period of 1970 through 1984.

While this approach is less rigorous than the standard options pricing models, it does allow for a useful preliminary assessment of the existing empirical evidence on default risk. It is interesting, then, that the analysis shows a general lack of consistency across the empirical studies. However the results do suggest that the default risk of ARMs will be slightly higher than that for FRMs, that ARMs with 3 year adjustment terms will have slightly lower default rates than those with 1 year adjustment terms, and that interest rate caps have no significant impact on default risk.

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[2] Hendershott and Van Order (1987) and Boyle (1977) provide a general discussion of the techniques associated with options pricing models.

[3] Vandell (1985) has undertaken a similar study, however his technique and emphasis differs from that of this paper.

II. DISCUSSION OF THE ISSUES

As argued above, empirical studies on their own are not sufficient to assess default risk. This point can be most easily demonstrated by considering the mathematical expression for the probability that a mortgage will default over its lifetime, illustrated here for an ARM.

$$(1)\quad P(\text{ARM defaults}) = 1 - \prod_{t=1}^{T} [1 - P(\text{ARM exists in } t) \cdot P(\text{ARM defaults in } t;\ \text{exists})]$$

where

$$P(\text{ARM exists in } t) = \prod_{i=1}^{t-1} [1 - P(\text{ARM defaults in } i;\ \text{exists}) - P(\text{ARM prepays in } i;\ \text{exists})]$$

Equation (1) highlights the necessity of modeling the determinants of default over time, a factor not typically incorporated into empirical research. It also highlights the crucial role of mortgage prepayment in a proper assessment of default risk.[4]

To assess the default risk of ARMs, three empirical studies of default are used as the basis for two simple sets of simulations. Using the parameter estimates of each study, the probability that borrowers default over the term of their mortgage is separately simulated for FRMs and ARMs. For each set of these simulations, the probabilities of default are combined into default ratios to give the probability of default with an ARM relative to that with an FRM.

$$(2)\qquad \text{Default Ratio} = \frac{P(\text{ARM defaults})}{P(\text{FRM defaults})}$$

Relative rather than absolute default risk is considered for two reasons. First, it is argued that FRMs provide an appropriate standard from which to address the default risk of ARMs. Second, the empirical studies of default underlying these simulations rely on different independent variables. For this reason it is often difficult to insure that the absolute level of default is comparable across studies. Expressing default risk in relative terms greatly reduces the magnitude of this problem.

A. Default Studies

Three of the existing empirical studies are used as a basis for the simulations in this paper -- Campbell and Dietrich (1983), Vandell (1978), and Zorn and Lea (1989).[5] Consistent with other studies, they presume that mortgage default is motivated by either: (1) ability-to-pay, which argues that defaults occur when borrowers have difficulties in meeting their required mortgage payments, or (2) equity, which argues that borrowers default when the market value of their mortgage (the present value of their future expected mortgage payments) is greater than the market value of their property.

Interested readers are directed to the studies for further details of their estimation. However, it is worth noting that these studies are all estimated on data of a single instrument type (FRM or ARM), which may limit their ability to accurately predict defaults with alternative instruments.[6]

B. Prepayment Studies

One of the few studies to empirically estimate the probability of mortgage prepayment is that of Foster and Van Order (1985).[7] Utilizing FRM data, it develops and estimates a simple model based on financial motivations, arguing that prepayment decreases as the market value of a mortgage declines relative to its par value. However mobility considerations are likely to be another important determinant of mortgage prepayment, particularly with the enforcement of "due-on-sale" clauses on conventional mortgages.

An alternative measure of the probability of mortgage prepayment is provided in Campbell et al. (1981). This paper utilizes FHA experience to provide average prepayment rates for each year in the term of a mortgage. These averages cannot account for the effect of fluctuations in economic variables on borrowers' financial incentives to prepay, however they may adequately capture variations in prepayment due to the average borrower's mobility decisions. As such, these average prepayment rates offer an interesting alternative to the estimates provided by Foster and Van Order. Consequently, both sets of prepayment estimates are used in the simulations that follow, although space limitations allow only the results based on the Foster and Van Order model to be presented.

III. SIMULATIONS

Two sets of simulations are conducted in this study. The emphasis of the first set of simulations is on assessing the marginal impact of anticipated and unanticipated changes in determinants of the relative default risk of ARMs. The second set of simulations broadens the focus to address simultaneous impacts. Using the economic history of the years 1970 through 1984, it attempts to determine how default rates vary in at least one realistic state of the world. The results of the simulations are provided in the form of the default ratios specified in equation (2). The probabilities necessary for determining these ratios are derived as in equation (1).

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[4] This point was previously made by Vandell (1978). Note, however, that he incorrectly computes the probability that a mortgage will exist in any time period.

[5] The other existing empirical studies are not included in this analysis because they are either difficult to simulate or otherwise inappropriate.

[6] This point is discussed in Vandell (1978).

[7] Other studies of mortgage prepayment include Meador (1983), Peters et al. (1984a), and Waldman et al. (1985). Foster and Van Order (1985) is the most rigorous of these studies.

A. Assessing Marginal Impacts

This first set of simulations estimates probabilities of default by simulating borrowers' decisions over the term of their mortgages. Each simulation considers a marginal variation from the base case, which was designed so that the probability of default for the FRM and ARMs is identical (the default ratio equals one). Because this is an assessment of marginal impacts (i.e. all other variables are held constant), differences in the default probabilities of the mortgage instruments can only occur with a divergence in their contract rates. For this reason the concentration is on assessing the impact of factors that affect the contract rates of ARMs relative to those of an FRM. These include: (1) the length of the adjustment term, (2) contract rate caps, (3) initial contract rate discounts (teasers), and (4) anticipated and unanticipated changes in interest rates over time.

Four ARM instruments are considered to account for the first two factors: (1) an ARM with a one year adjustment term and no caps (ARM1), (2) an ARM with a one year adjustment term, a 200 basis point time-of-adjustment cap, and a 500 basis point life-of-loan cap (ARM1CAP), (3) an ARM with a three year adjustment term and no caps (ARM3), and (4) an ARM with a three year adjustment term, a 200 basis point time-of-adjustment cap, and 500 basis point life-of-loan cap (ARM3CAP).[8]

The contract rate for each mortgage is set so that, at the time of origination, the present value of expected future mortgage payments equals the amount of the loan. At the time of adjustment, the contract rate for ARMs can vary depending on the value of the market contract rate and the constraints imposed by any rate caps. The market contract rate for ARMs is the sum of an index, plus a margin that remains constant over time. The margin is composed of two components, a portion that is common across all mortgages (including the FRM), and a portion that differs for each ARM. The variable portion accounts for the unique characteristics across ARMs, such as initial discounts and rate caps, and adjusts to equate the present value of expected mortgage payments to the amount of the loan (at the time of origination).[9]

The contract rate for the FRM is computed by adding the common margin to the expected future value of the index in each period over the term of the mortgage, and deriving a constant interest rate that provides an equivalent yield over the same period. The starting values for each simulation, as well as the implied margins for the ARMs, are given in the Appendix. In addition it is assumed that borrowers make a downpayment of 20%, the mortgage term is 25 years, household income is $25,000, and the house price is $75,000.

In the first simulation all four ARMs are offered with an initial discount (teaser) of 300 basis points. Simulations 2 through 5 address the issue of changes in the index over time. To simplify the simulations the index is constrained to change either continuously (in simulations 2 and 3) or with a single discrete shock (in simulations 4 and 5). In simulations 2 and 4 the market is assumed to have perfect foresight, perfectly predicting the future increase in interest rates. In simulations 3 and 5 the increase in rates is unanticipated. Further, in simulation 3 expectations are assumed to never adjust to the 10% yearly increase in the index rate.

The results of these simulations are presented in Table I. **A priori** it is expected that default ratios will be less than one for simulations 1, 2, and 4, simulations in which there is an anticipated increase in the contract rates of ARMs. Under this circumstance ARMs begin at lower contract rates than the FRM, reducing early probabilities of default. Higher contract rates occur in the future, but their effect is discounted by the probability of mortgage termination in previous periods. For the opposite reason it is expected that default ratios will be greater than one for simulations 3 and 5, where there is an unanticipated increase in the contract rates of ARMs. Expectations in this regard are generally met, with one exception. In particular, the default ratios from simulation 5 are generally less than one.

The impact of changes in the characteristics of the ARMs is harder to predict **a priori**. However the simulation results suggest that this impact is small -- caps and the length of the term of adjustment generally have little impact on default risk. Nonetheless there is some indication that the default risk of ARMs with 3

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[8] 100 basis points equal 1 percent.

[9] To avoid the simultaneity problem inherent in computing the margins, the contract rates, and the market value of the mortgages, it is assumed that: (1) prepayment probabilities are the average FHA rate of prepayment, and (2) the probability of future default is zero. These assumptions are justified primarily on the grounds of expediency.

Table I. Results From Simulations Assessing Marginal Impacts: Prepayment Rates Based on Foster-Van Order Model

Simulation	Empirical Study	Default Ratios			
		ARM1	ARM1CAP	ARM3	ARM3CAP
#1	Campbell-Dietrich	0.9418	0.9304	0.8818	0.9043
	Vandell	0.9197	0.9021	0.8248	0.8314
	Zorn-Lea	0.9591	0.9522	0.9238	0.9315
#2	Campbell-Dietrich	0.9627	1.0138	0.9596	1.0149
	Vandell	0.8024	0.8565	0.8068	0.8652
	Zorn-Lea	0.9338	0.9417	0.9373	0.9478
#3	Campbell-Dietrich	0.9663	0.9633	0.9554	0.9535
	Vandell	1.1374	1.1243	1.0808	1.0728
	Zorn-Lea	1.0687	1.0625	1.0544	1.0497
#4	Campbell-Dietrich	0.9102	0.9103	0.9020	0.9253
	Vandell	0.8777	0.8751	0.8777	0.8925
	Zorn-Lea	0.9470	0.9480	0.9470	0.9584
#5	Campbell-Dietrich	0.8642	0.8682	0.8642	0.8730
	Vandell	1.0104	1.0065	1.0104	0.9967
	Zorn-Lea	0.9514	0.9589	0.9514	0.9614

year terms of adjustment is less than that for ARMs with 1 year terms.

There also appears to be little consistency regarding estimates of default risk across empirical studies. While the studies generally agree as to whether the default risk for ARMs is more or less than that for the FRM, the value of the default ratio often varies considerably across studies in a given simulation. Finally, despite rather large changes in interest rates, the probability of default with ARMs is generally within 10% of that of the FRM (the default ratio is between 0.90 and 1.10).[10]

B. An Historical Assessment

In this set of simulations, 15 years of historical data are used to estimate probabilities of default. The previous simulations are useful in isolating the effects of independent changes in the economy, however fluctuations in the actual economic environment occur simultaneously, and often unpredictably. Simulations based on past economic conditions offer an indication of the relative default risk of ARMs in at least one real state of the world.

To capture the impact of varying economic conditions over the 15 years of 1970 through 1984, default ratios are derived for loans originating in three time periods -- 1970, 1975, and 1980. Because the last year of the data is 1984, these default ratios are based on the probabilities that borrowers default in any year from the time of origination through 1984.

The overall approach of these simulations is similar to that of the previous set, with the exception that the values of the economic variables are determined from the historical record. Household income, house price, and the unemployment rate are assumed to be equal to the yearly median income, median sale price of existing single family dwellings, and national unemployment rate, respectively.

For each year, estimates of yearly market interest rates for the next 30 years are computed by a program developed at the Federal Home Loan Mortgage Corporation. The estimated yearly interest rates are used to compute the indices determining the contract rates of the

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[10] In addition, there are large differences between the default ratios provided in Table 2 and those obtained using the prepayment rates of Campbell et al. This emphasizes the critical role of prepayment in assessing default risk.

Table II. Results From Historical Simulations: Prepayment Rates Based on Foster-Van Order Model

	Year of Origination/	Empirical Study	Default Ratios			
			ARM1	ARM1CAP	ARM3	ARM3CAP
WITHOUT TEASER	1970	Campbell-Dietrich	1.2037	1.2240	1.1678	1.1717
		Vandell	1.0927	1.2139	1.2372	1.2782
		Zorn-Lea	1.2087	1.2129	1.1375	1.1451
	1975	Campbell-Dietrich	1.0579	1.0704	1.0581	1.0516
		Vandell	1.2821	1.3055	1.3314	1.2591
		Zorn-Lea	0.9956	1.0146	0.9973	1.0091
	1980	Campbell-Dietrich	1.0751	1.1830	0.9681	1.0018
		Vandell	1.1041	1.2878	0.9590	1.0189
		Zorn-Lea	1.0645	1.0962	1.0108	1.0143
WITH TEASER	1970	Campbell-Dietrich	1.1854	1.2064	1.1963	1.2161
		Vandell	1.0518	1.1436	1.1810	1.2825
		Zorn-Lea	1.2042	1.2184	1.2038	1.2202
	1975	Campbell-Dietrich	1.0372	1.0510	1.0394	1.0338
		Vandell	1.2447	1.2716	1.2442	1.1135
		Zorn-Lea	0.9912	1.0104	1.0158	1.0505
	1980	Campbell-Dietrich	1.0597	1.0520	0.8774	0.9395
		Vandell	1.0829	1.0916	0.8364	0.9393
		Zorn-Lea	1.0574	1.0204	0.9793	1.0038

loans, as well as the market value of the mortgages. The contract rate for the FRM is assumed to be set at 200 basis points above the interest rate on 10-year government bonds. Market contract rates for the one and three year ARMs are based on the one and three year government bond rates, respectively.

The margins for ARMs without an initial discount are set as follows: 200 basis points for ARM1, 250 basis points for ARM1CAP, 225 basis points for ARM3, and 275 basis points for ARM3CAP.[11] The margins for ARMs with an initial 300 basis point teaser are set as follows: 225 basis points for ARM1, 275 basis points for ARM1CAP, 275 basis points for ARM3, and 350 basis points for ARM3CAP.[12]

The results of these simulations are presented in Table II. These results suggest that ARMs have greater default risk than FRMs -- the default ratios are generally greater than one. Note however that the difference in default risk is typically not large, with the default risk of ARMs generally within 10% of that of the FRM. Consistent with this finding, ARMs with 3 year adjustment terms generally have lower default risk than ARMs with 1 year adjustment terms.

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[11] The value of these margins is consistent with recent market experience as found in periodic surveys by the Federal Home Loan Mortgage Corporation.

[12] The premium for the initial discount is based on the margins derived from the first set of simulations assessing marginal impacts (see Table I).

This is particularly true with loans originated in 1980, when the yield curve was downward sloping.[13]

Despite the wide fluctuations in interest rates during this period, there is typically little consistent difference between the default risk of capped and uncapped ARMs. The exception to this is with loans originated in 1980. Because there was a large decrease in interest rates early in the life of these mortgages, capped ARMs are found to have a greater default risk than uncapped ARMs.[14]

Although there is a general lack of consensus across these empirical studies, there is a basic consistency between the default ratios based on Campbell and Dietrich and Zorn and Lea. It is also interesting to note that, although default ratios based on Vandell are often at variance with the other studies, they are relatively robust with respect to changes in prepayment rates and the introduction of teasers.[15]

IV. CONCLUSIONS

The lack of consistency in predictions of default risk across empirical studies, combined with the important but empirically unexplored role of prepayment in determining default risk, makes drawing conclusions from these simulations somewhat risky. Nonetheless, the analyses do offer the opportunity to draw several tentative conclusions.

In particular, general implications can be drawn from the relatively consistent findings of simulations based on the work of Campbell and Dietrich and Zorn and Lea. First, if the 15 year historical record is any indication, default risk with ARMs will typically be higher than that with FRMs. However the difference in risk will be rather small -- in the range of 10%. Given the generally low rates of default with FRMs, and the unusually large fluctuations in interest rates since 1970, the slightly higher predicted default risk for ARMs may not be cause for concern.

Consistent with the above findings, the simulation results imply that ARMs with 3 year terms of adjustment will generally have slightly lower default risk than those with 1 year terms. Surprisingly, it is also found that interest rate caps (at least 200 basis point time-of-adjustment and 500 basis point life-of-loan caps) offer little significant reduction in default risk. In fact, in the historical simulation caps increased the risk of default for ARMs originated in 1980. This suggests that the emphasis on interest rate caps for ARMs may be misplaced.

Finally, this analysis offers two suggestions for improving future empirical research on default. Foremost in importance is the necessity of incorporating the prepayment decision into studies of mortgage default. Before an accurate measure of default risk can be obtained, empirical studies must simultaneously estimate the determinants of prepayment and default.

In addition, the simulations demonstrate an unfortunate lack of consensus among empirical studies of default. Given the relative consistency in the models underlying these studies, this lack of consensus is cause for concern. Variations in data offer one possible explanation for these differences. Improvements in data are clearly possible, and the definitive empirical study on default may await a micro-level data set that incorporates borrowers with FRM and ARMs, and includes data on prepayment as well as default.

REFERENCES

Boyle, P. P. (1977). "Options: A Monte Carlo Approach," Journal of Financial Economics, 4: 323-338.

Campbell, T., J. Dietrich, W. Ross, and R. Smith (1981). "The Secondary Mortgage Market in the 1980's: Structure of the Market and the Distribution of Risk," unpublished manuscript.

Campbell, T. and J. Dietrich (1983). "The Determination of Default on Insured Conventional Residential Mortgage Loans," Journal of Finance, 38: 1569-1581.

Foster, C, and R. Van Order (1984). "An Option-Based Model of Mortgage Default," Housing Finance Review, 3: 351-373.

Foster, C. and R. Van Order (1985). "FHA Terminations: A Prelude to Rational Mortgage Pricing," AREUEA Journal, 13: 273-291.

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[13] In 1980 the 10 year government bond rate was approximately 120 basis points below the 1 year bond rate. The yield curve was also slightly downward sloping in 1970 -- the spread between the 1 and 10 year government bond rates was approximately 30 basis points.

[14] Between 1982 and 1983, 1 year government bond rates declined approximately 570 basis points, while 10 year government bond rates declined approximately 400 basis points.

[15] Again, consistent with the previous set of simulations, there are large differences between the results of the simulations based on the two prepayment models.

Hendershott, P. and R. Van Order (1987). "Pricing Mortgages: An Interpretation of the Models and Results," Journal of Financial Services Research, 1: 77-111.

Jackson, J. and D. Kaserman (1980). "Default Risk on Home Mortgage Loans: A Test of Competing Hypotheses," Journal of Risk and Insurance, 47: 678-690.

Lea, M. and P. Zorn (1986). "Adjustable Rate Mortgages, Economic Fluctuations, and Lender Portfolio Change," AREUEA Journal, 14: 432-447.

Manchester, J. (1985). "Evidence on Possible Default Under Three Mortgage Contracts," Housing Finance Review, 4: 517-536.

Meador, M. (1983). "The Effects on Mortgage Repayments of Restrictions on the Enforcement of Due-on-Sale Clauses: The California Experience," AREUEA Journal, 10: 465-474.

Peters, H., S. Pinkus, and D. Askin (1984a). "Figuring the Odds: A Model of Prepayment," Secondary Mortgage Market, 1: 18-23.

Peters, H., S. Pinkus, and D. Askin (1984b). "Default: The Last Resort," Secondary Mortgage Markets, 1: 16-20.

Vandell, K. (1978). "Default Risk Under Alternative Mortgage Instruments," Journal of Finance, 33: 1279-1296.

Vandell, K. (1985). "An Analysis of the Credit Risk Inherent in FNMA's Recent Portfolio Acquisitions of Adjustable Rate Mortgages," paper presented at the GAO Symposium on FNMA Issues, Washington D. C..

Vandell, K. and T. Thibodeau (1985). "Estimation of Mortgage Defaults Using Disaggregate Loan History Data," AREUEA Journal, 13: 292-316.

Waldman, M., H. Peltz, and N. Lowen (1985). "Mortgage Prepayments: The Regional Difference," Mortgage Banking, 45: 25-38.

Webb, B. (1982). "Borrower Risk Under Alternative Mortgage Instruments," Journal of Finance, 37: 169-183.

Zorn, P. and M. Lea (1989). "Mortgage Borrower Repayment Behavior: A Microeconomic Analysis with Canadian Adjustable Rate Mortgage Data," AREUEA Journal, 17: 118-136.

Appendix: Starting Values for Simulations Assessing Marginal Impacts: Expressed as Variations From the Base Case

Variables	Base Case	Simulations 1	2	3	4	5
INDEX RATE						
expected yearly rate of change	0%	-	10%	-	-	-
actual yearly rate of change	0%	-	10%	10%	-	-
expected increase in year 4	0 bp	-	-	-	300 bp	-
actual increase in year 4	0 bp	-	-	-	300 bp	300 bp
ARM DISCOUNTS AND MARGINS						
initial discount	0 bp	300 bp	-	-	-	-
ARM1 margin	200 bp	226 bp	-	-	-	-
ARM1CAP margin	200 bp	233 bp	212 bp	-	207 bp	-
ARM3 margin	200 bp	269 bp	-	-	-	-
ARM3CAP margin	200 bp	284 bp	212 bp	-	217 bp	-
INITIAL CONTRACT RATES						
FRM	9%	-	12.51%	-	10.97%	-
ARM1	9%	6.26%	9.16%	-	-	-
ARM1CAP	9%	6.33%	9.29%	-	9.07%	-
ARM3	9%	6.69%	9.54%	-	-	-
ARM3CAP	9%	6.84%	9.66%	-	9.17%	-

REFEREED PAPERS SESSION
FINANCIAL MANAGEMENT ISSUES

Mary Ellen Rider McRee, Purdue University[1]

The three papers in this session addressed particular financial products available to the consumer. The particular products examined were flexible spending accounts, life insurance, and adjustable rate mortgages. The research designs vary from survey research to economic models.

Consumers must deal with a multitude of financial products and options. The products available to them change as the market changes. Individual assessment becomes difficult. Therefore, it is important that consumer researchers examine these financial products to better target related educational concerns. It is a privilege to have been asked to discuss papers presented by the researchers who have reported. The bases for the following comments are the papers received prior to the conference.

THE HAMPTON, KITT, AND GRENINGER PAPER

The "newness" of flexible spending accounts (FSA), the growth in their availability over the last few years, and the limited academic reference to them creates an area for research opportunity. Such is the case of the topic of the Texas contribution to this session's agenda.

The literature review presented information regarding changes in the family and employment that paved the way for the creation of FSAs. Information on the creation of and conditions for FSAs by the Internal Revenue Service were included.

Family composition categories not mentioned in the paper were married persons with dependents and married persons without dependents. These distinctions are particularly important as we look toward the 1990s when "married persons without dependents" is expected to be the predominant married person category.

The hypotheses were appropriate to the objective of the study which was to investigate the economic and non-economic factors effecting the decision of an employee to participate in an FSA.

One concern for this reviewer was the description of the population in regard to the proposed hypothesis. The sampling frame was described as a non-profit organization. More description was needed. A guess was that this sample may have consisted of employees at a major university. If so, this should have been noted. An initial reaction was that the overall education and income level for this sample would, of course, be high. (This was stated in the revised copy I received this week.) Some sort of cluster sampling might have assisted in controlling for the idiosyncrasies of this sample. Such a sampling frame would probably then have required a sample larger than 655.

More care needed to be given the result section when it was written up. Simple writing errors such as identifying questions as statistically significant rather than statistically significant variables could have been cleaned up. Giving numbers instead of percentages would have made it easier to follow the discussion since the tables were expressed this way. For instance, the text of the paper states that one-fourth of the respondents had education levels of Bachelor's degree or above and two-fifths held higher degrees. This represents 144 of the 320 respondents as described. If these descriptions are accurate, the reviewer would have expected to see the reported years of education to be closer to 16 plus rather than a mean of 13 years of completed education. Another general concern was the repeated use of only male pronouns in the research design and findings sections of the paper. In 1990, more attention to gender neutral writing would have appreciated.

Non-participants tended to be singles. It follows that these families or household sizes would be small. Therefore, to improve the results, control for household size or family size within the study is needed.

In asking respondents about their past expenses, I question the accuracy of answers provided. How accurate can recall be when requesting information over the last three years? If the ideal consumer exists with excellent records, the possibility for accuracy exists.

Questions whose answers I feel would have strengthened the findings were:

*Who controls the money in the family or has primary decision-making responsibility for budgetary matters? The study approaches this question by using the amount of time spent in making the FSA decision. Answers to the control question may have provided more insight into the time involved in the decision making.

*Who has the background for making financial decisions? Again a reference to the individual(s) making the financial decisions. Making tax-related financial decisions takes more knowledge/consideration than preparing a budget. Studies of consumer education knowledge have shown that age or its proxi is usually a factor in level of knowledge.

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[1] Assistant Professor/Extension

*Are persons who had this option handling these expenses elsewhere, such as through a spouse's employment, that may have kept them from selecting this option with their own employer?

This duplication of sources option may have been available for participants in this study. However, in fairness to the researchers, my reading says that such source duplication may not be available in the future as corporations look at ways to keep benefit costs down.

*How clear was the description of FSAs and the corresponding reimbursement process in the materials provided to assist in selecting an FSA? Would this have effected the selection/ nonselection decision? Could the persons reading the materials understand the benefit?

THE WALDEN PAPER

With an aging American population, risk protection of assets and income is a more visible concern. Life insurance is certainly a vehicle option in the scheme of asset protection for purposes of paying taxes and other expenses. Some forms have investment characteristics as well.

This paper did not have a bibliography attached. Was it lost in the system of reviewing papers? If one as not developed, what background information could have been gained?

Most information in financial management education regarding the determination of life insurance needs takes the view that inflation does effect need. Educators teach that inflation changes and that needs change. Assuming salaries go up with inflation, the impact of inflation on the face value is built into the purchase of life insurance when purchases are determined based on a multiplier of income. Therefore, a basic question arises as to why the approach of the author over what is commonly used.

The article points out the importance of considering the effect of time on the face value of the policy, using an appropriate level of inflation in determining insurance needs, and conducting a periodical review of this process. In reading the paper a first question became, how is the premise of the paper different from an application of the time value of money? My decision was that it was not.

The Walden paper does an excellent job of defining terminology and laying the groundwork for calculations presented. As a person whose primary responsibility it is to interpret data to the lay public, the writing style and easy readability was appreciated.

Of note is that the definition of the term effect fails to recognize changing needs of the policy holder over the life of the policy. By definition within the paper, those needs are reduced. Maybe the author was implicitly referring to this when he indicated the need for periodic review. A more definite recognition of this point would have been commendable. Background addressing for changing needs could be found in Dr. Marily Moon's presentation made at the opening session of this conference.

An accolade is due Dr. Whalen for departing from the theoretical to provide implications from the research for the consumer. Often this aspect is lacking in research reports of this type.

A question for which the answer may have strengthened this paper is:

*If life insurance needs were superimposed over the curves in figures one and two , what would the new figure look like (when compared to the life insurance requirements illustrated)?

THE ZORN PAPER

The Zorn paper provides a preliminary assessment of relevant default risk of adjustable rate mortgages. Because it was a simulation, the data, assumptions and model are important to the outcome. I chose to concentrate comments on the assumptions, data, and other aspects of the study.

The paper did a excellent job of reviewing and discussing previous research and the direction of research regarding default risk and prepayment studies. One of the motivations for this particular exercise was to determine the extent to which existing models agreed on their predictions of default risk. The researcher discovered that the predictions were inconsistent. A discussion about the differences in the assumptions with each paper and how these may have effected the inconsistencies in predictions might have followed and would have been appropriate given this conclusion.

The description of the Campbell sample used in the analysis was more complete than others used in the study. I would like to have seen an improved description of the sample data used by Lea and Zorn.

The Zorn paper was a challenge to assess for this discussant. The discussant's orientation is toward practical application. I would like to have seen explicit implications for the consumer in the conclusion section of the paper. After all, this is the American Council on Consumer Interests. Questions whose answers would have been of interest to consumer educators and researchers are:

*What does this research say for providing guidance in selecting a fixed rate mortgage vs. an adjustable rate mortgage?

*What does this research say in relation to the balance of fixed rate mortgages and adjustable rate mortgages for the economy? Knowing that ARMs have higher default levels, should these be held at lower levels?

SUMMARY

The research presented today should provide more background for consumer educators as they assist consumers in selecting from the many "new and improved" financial products. It is important that consumer researchers continue to examine these financial products to better target educational concerns.

EMERGING CONSUMER ISSUE IN THE 1990'S

Lee Richardson, The University of Baltimore[1]

Forecasts for the 1990's depends on understanding both the substance of issues and the ways consumer interests will respond to them. Five issues are selected to aid in the forecast, but they are not likely to each be important issues. Analysis of each is instructive in evaluating the nature of the consumer movement.

ISSUE 1
CABLE TELEVISION REGULATION

The U.S. cable television industry began following World War II, primarily as a means of distributing distant broadcast television signals within rural communities. Communications satellites in the mid-1970's changed a relatively minor industry into one that now reaches half of American households with program services that did not exist 15 years ago, as well as with broadcast station signals.

In 1984, with relatively little participation in the debate by consumer interest groups, Congress deregulated local cable distribution systems. With virtually no competition from rival local cable companies, the local systems were freed to determine the mix of services and their pricing. Program companies have never been regulated. The cable industry argued then that existing local regulation had failed, and that alternative video and entertainment industries would prove effective in limiting cable price increases.

This year Congress may include a reassessment of the deregulation experiment. Consumer protests individually, and the efforts of the Consumer Federation of America in particular, have caused widespread discussion of reregulation. Consumers argue that the de facto local monopolies have raised rates excessively, and that merger activity in the industry overall has reduced competition. Local systems today are essentially units of large national cable and other communications companies, rather than independent local organizations.

Consumer interest in reregulation is largely unorganized. There is no national consumer cable organization with a meaningful constituency. Members of Congress have been spurred primarily by individual citizen protests that vary dramatically from locality to locality. Whether Congress will declare its 1984 actions to be fundamentally wrong is dependent on the development of much more pressure than has been seen to date.

ISSUE 2
HOUSEHOLD RECYCLING

Interest in environmental issues has surged steadily ahead for two decades, regardless of who has been in the White House. Among the many categories of issues is solid waste. Garbage disposal costs $80 billion annually and continues to produce problems in whatever ways it is reduced, stored, or recycled.

Individual households are increasingly being involved and affected by new programs. One method is to raise direct costs for disposal by individual households, and thus to presumably encourage less trash output by consumers. Another method is to directly regulate households, such as by requiring trash sorting to serve the needs of recyclers or different disposal systems.

It is generally asserted that consumers are willing to assume somewhat greater responsibilities and costs for their garbage disposal than they do currently. In addition to regular tax supported "curbside" collection, there are experiments which also charge by weight and volume of trash. In addition, penalties and regulations that require special containers and sorting of materials by households are being tried in various localities. Special regulations for hazardous materials such as motor oils and various toxins may appear.

While public policy focuses on immediate solutions related to household trash, other consumer actions could also produce acceptable results. Consumer education, market forces, and consumer self interest may develop numerous useful alternatives. These include recycling industries with innovative ways of collecting what would otherwise be trash. The life of goods could be extended by their sale (antiques, second-hand stores, yard sales), their recycling by the households (composting, various reuses of materials and containers), or by storage by the household (anything that might come in handy later). Consumers could change the quality and quantity of their purchases if the trash disposal issue loomed larger in their household planning.

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[1] G. Maxwell Armor Eminent Scholar and Professor of Marketing

This issue is difficult to forecast because the consumer behavior has little history. Lacking alternatives or information about alternatives, consumers may not accept costly or heavy handed government regulations as their only choices. Trash regulations may prove unenforceable if large numbers of people refuse to cooperate.

Handled appropriately, household recycling and trash disposal may never be issues at all.

ISSUE 3
AUTO INSURANCE

Auto insurance rates rose dramatically in the late 1980's. The effects on automobile drivers and owners were very uneven among groups of consumers due to company pricing and state regulatory practices. While there were some protests as rates rose, concerted efforts in California led to the passage of Proposition 103, by a statewide vote in late 1988, which was to reduce rates by 20%.

Proposition 103 attracted much attention and stimulated consumer groups in other states to attempt auto insurance reform through their legislatures. No-fault and other reforms were proposed in various packages of proposals in 1989 and 1990. Meanwhile, the impact of Proposition 103 has been felt only slightly in California, and its eventual effect on rates is difficult to predict.

Auto insurance is a long term issue where periodic efforts have occurred to reform pricing and reduce some of the costs. No-fault has been supported by many consumer groups for 20 years, but state by state implementation has generally had little effect on rates in most states because of serious compromises in their laws with the original no-fault principles.

Serious attempts to reform auto insurance laws have been attempted or are still under way in Arizona, Nevada, New Jersey and California. Consumer groups are united in their interest in lower rates, but are divided over no-fault and a host of other reforms. The public interest is in lowering rates, but again there is widespread disagreement on how to accomplish rate reductions. Efforts at reform are moving very slowly in most states, no doubt in part due to confusion about which reforms can work. The consumer movement's leadership is not of one voice, and interested political and other influential persons do not know which reforms to support. The key must be found among consumer interest groups that allows them to come together with a hard set of principles to advance in the fifty states.

ISSUE 4
RADON

Radon is an invisible, odorless gas that results from the natural decay of uranium in particular. Other than some sites in western states that were dumping areas for mines and ore processing, radon is found widely distributed for natural reasons in the United States.

The Environmental Protection Agency and state agencies have undertaken some efforts to study radon and its impact. The EPA says radon may cause 5,000 to 20,000 deaths annually in the U.S., and is thus the second leading cause of lung cancer. Some dispute occurs from time to time about the EPA death estimates, but most scientists appear to accept that radon is a major hazard.

The danger to individuals varies with the cumulative effects of their indoor environmental exposures. This is partly due to the locations geographically, but is also influenced by the way in which the structure captures the radon gas. Tight construction with little ventilation at ground level, combined with leakage into the building through foundation gaps and cracks, appears to be the worst scenario for a building. Americans move a great deal, so that many individuals experience significant exposure for part of their lives.

Measures to deal with radon are fairly simple and inexpensive for so serious a health threat. The first step is to measure radon levels in a building. A variety of steps to stop leakage from the earth or to increase ventilation can be accomplished if a hazardous level of radon is measured.

The primary action by individuals to date is to do nothing. They are unmoved in general by the scientific evidence and the pleadings of health and environmental officials. The small industry that once appeared to be developing to measure and correct radon hazards has floundered badly in the past two years.

The consumer movement has shown little interest in developing policies to eradicate the radon threat, even where hazards have been shown to be very high. There is simply no interest.

Among the proposals to deal with radon have been those which subsidize or encourage measurement and corrective action and those which mandate inspection. The latter group includes requiring new housing to pass tests, or housing that changes ownership to be inspected, much like termite inspection. Private legal actions may eventually give courts some standards by which to compensate individuals exposed to high radon concentrations as tenants or buyers of properties.

ISSUE 5
EUROPE IN 1992

The European Common Market has never really been a common economic market since the EEC inception in 1957. In the mid-1980's, however, political consensus was achieved that promises to eliminate many of the direct and indirect barriers to transactions between these nations.

Europe 1992 is partly very real, in that 1992 is a target date for many of the changes. The term is symbolic in another sense, since it marks only the beginning of numerous implementation schedules for the hundreds of changes and reforms that will take a decade or more to achieve.

The promise of Europe 1992 is that producers and consumers of the EEC will share wider markets for goods and services. This will provide producer opportunities for growth, more competition, and more choices at reasonable prices for consumers and other buyers.
Outsiders do not yet seem to have a good vision of the consequences of these changes. Some anticipate increased barriers to trade for goods entering Europe. Others expect little change. Consumers who buy from Europe may benefit from the innovations caused by a more competitive set of producers within Europe.

Many U.S. companies are establishing operations within Europe to avoid the hazard of reduced opportunities for entry later. Government is concerned that "Fortress Europe" not develop. There is little evidence of a fortress mentality to date.

Consumer interests have almost no policies toward Europe 1992. Individual U.S. consumers are not expressing any concern either.

While Europe 1992 is one of the most significant economic developments of the quarter century, the consumer interest in the U.S. is not defined nor in the process of development at all.

THE EUROPEAN COMMON MARKET IN 1992:
FRIEND OF FOE OF CONSUMER

E. Thomas Garman, Virginia Polytechnic Institute[2]

An economic merger of unprecedented proportions will occur at the end of the 1992 when the European Common Market finally will become a reality. That year will mark the removal of customs, tariffs and non-tariff barriers among all the major European countries with the aim to create a single economy for the purchase and sale of goods and services. The stated objective is to remove trade barriers and administrative restrictions to the free movement of goods, services, and capital within the community. This loose confederation will create a market equivalent to that of the United States although the total population will be larger, presently about 330 million persons.

A Key question is "How well will the new European Common Market serve the consumer interest?" The consumer interest is concerned with securing, protecting, and asserting consumer rights in marketplace transactions in order that consumers receive an acceptable quality of goods and services at fair or low prices appropriate for particular levels of quality. Note that the consumer interest is first and foremost concerned about price and quality. How well will European consumers fare? How well will American consumers fare?

Full economic unification of the twelve member nations of the Council of the European Communities (EEC), headquartered in Brussels, and elimination of all trade barriers actually will occur slowly rather than rapidly, perhaps over the following four to six years. Harmonization of rules and regulations will clearly facilitate free circulation of goods and services among the European nations as originally spelled out in the Treaty of Rome. Many decisions in the future will be community-wide rather than carried out at the national level, through the European Parliament, which is a supranational body serving as a weak central government.

Such a single economic bloc in Europe will have economic power to rival that of the United States and Japan. Some Americans fear the such unification is a threat to free trade and that in creating "Fortress Europe" the European countries will buy European goods and services by consciously turning to each other first for their purchases and sales, causing a substantial loss of trade for American companies. Others argue that it will be easier for American firms to make sales in a unified common market than at present. A Pan-European approach should also spur an economic growth rate in Europe in excess of three percent and create increases in service industries like tourism and computer software.

Perhaps the biggest gain for consumer everywhere will be that products will be held to a common standard and this will eliminate costly delays at the borders. Uniformity and standardization will help consumers in many ways. For example, rules on using food additives and food labeling will be consistent throughout Europe. Agreement also will be reached for a uniform approach to microbiological food safety, pesticide and veterinary drug residues, and food additives. The challenge in all areas of the consumer interest is to establish high common standards and enforce them.

However, the consumer interest may be negatively affected in a number of ways. The consumer interest will suffer should the Common Market develop protectionist tendencies because fewer goods and services will be available for sale to American and European consumers if the two regional trading blocs slug it out across the Atlantic; many remaining products would be overpriced.

Governments in the United States and Europe will battle over a greater number issues in trade areas like food exports, telecommunications, automobile, textiles, computers, public telephone switches, television programming, insurance, and banking,. Illustrative is the 1989 European ban on imports of $100 million worth of U.S. beef treated with growth hormones and the reaction taken by the U.S. in its 100 percent tariffs on a range of agriculture products imported from European countries. Prices skyrocket! Consumers also will lose if European governments continue to subsidize a number of products including Japanese and Italian automobiles, Spanish and Portuguese produce, and the airplane maker Airbus.

The biggest losses to consumer will probably occur because individual countries will lose some authority over mergers which will result in a much greater concentration of the market. Action by the European

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[2]. Professor of Consumer Studies

Court of Justice to prohibit mergers will not occur until the size of the merger exceeds $6 billion, a high threshold. Also it is not yet clear how the European Community will handle joint ventures. Further, it is likely that there will be a tendency to permit less rivalry among companies which have potential to fight it out with American and Japanese firms even though the impacts upon European consumer will be negative, The pattern will be familiar: subsidizing products and services to increase market share and raising consumer prices later.

Consumers everywhere will gain when European business firms charge lower prices on their products and services because they are able to more freely obtain capital, labor, insurance and goods at more favorable terms. European consumers will gain from uniform standards for vocational training and issuance of European vocational cards as there will be a greater number of better educated and reliable service providers. While there are many potential public benefits which are likely to occur because of the economic integration of the European countries it remains to be seen whether or not the interests of consumer will be adequately protected. Further actions of the European Common Market and how they affect the consumer interest will be a long-term issue requiring study, analysis and action for those desiring to protect consumers.

EMERGING CONSUMER ISSUES IN THE 1990'S
AUTO INSURANCE

Joel Rudd, The University of Arizona[3]

Auto insurance reform promises to be an exciting and interesting issue for consumer groups in the 1990's. The central problem driving auto insurance reform efforts are rapidly escalating auto insurance premiums facing consumers in many areas. These increasing premiums are a localized phenomena: there is a great variation across and within states in the degree of premium increases. Among the states currently experiencing premium increases sufficient to generate consumer activity are Arizona, California, Massachusetts, Nevada, New Jersey, and Pennsylvania. Within many states, premiums are increasing much more rapidly in urban then in rural areas.
Assigning blame for skyrocketing auto insurance premiums has become a popular subject for editorial writers, political commentators, consumer leaders, and others with a vested interest in the auto insurance system. The most frequently cited reasons for high premiums fall into four categories: (1) Blame the insurance companies, e.g., insurance company profits are excessive, there is too little competition, companies are inefficient, cost-based rating is unfair, etc. (2) Blame the escalating costs inherent in the insurance system, e.g., attorney's fees, other litigation costs are too high, medical and auto repair costs are soaring, fraud is endemic, etc. (3) Blame the lack of effective regulation of the industry, e.g., the lack of prior approval of insurance rates in many states, the revolving door between state insurance regulatory agencies and the industry, etc. (4) Blame unsafe autos, highways, and drivers, e.g., autos and highways are not as safe as possible, drunk and otherwise negligent drivers are permitted to drive, etc.

The consumer movement is divided on what factors are to blame for rapidly escalating auto insurance premiums and thus, on what reforms are necessary to lower them. The one commonality shared by consumer advocacy groups is that they are all working with one or more of the business groups associated with the auto insurance system. The principle business groups working with consumer groups on the auto insurance issue are insurance companies, insurance education and outreach organizations, insurance agent groups, and trial attorney groups.

While the consumer advocacy groups working the auto insurance issue are divided on appropriate reforms, their various responses to the auto insurance crisis can be grouped into three approaches: (1) Regulatory Approach. This approach blames the insurance industry and weak regulation for increasing premiums. the solution is a mandated premium rollback and strengthened state regulation of the insurance industry. California's Proposition 103, supported by Ralph Nader, is the best known example of this approach. Narrowly passed by voters in November 1988, Proposition 103 has yet to have an impact on California's auto insurance premiums (the 20% rollback has been effectively blocked by the state Supreme Court and the regulatory reforms have been only slowly put into effect). There is currently a strong anti-Proposition 103 backlash in California.

(2) Cost-Based Reforms. this approach attempts to reform the auto insurance system by eliminating unnecessary costs such as attorney's fees and other litigation costs. Mandatory high quality no-fault laws have long been supported by Consumers Union and the National Insurance Consumer Organization. A consumer choice approach, in which consumers would choose between a tort liability policy and a lower-cost personal protection policy has the support of a new consumer group, Project New Start. The consumer choice approach holds promise because it provides a marketplace solution to rising premium costs.

(3) Saving through safety. This approach supports safety improvements as a method to decrease claims costs and, thus, produce downward pressure on auto insurance premiums. This view is supported by another new consumer group, Advocates for Highway and Auto Safety.

The intractable nature of the auto insurance problem would seem to indicate that it will remain a major consumer issue in some states well into the coming decade. The situation is exacerbated by the lack of consensus among consumer groups on the causes and cures for the problem.

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[3]. Associate Professor of Consumer Studies

THE CHANGING SOCIAL ENVIRONMENT OF CONSUMER CHOICE

Robert O. Herrmann, The Pennsylvania State University[1]

The social environment affects the linkage between consumers' attitudes and their behaviors. Significant changes have occurred in recent years in this social environment. The social norms constraining consumer complaining and information search have eased. At the same time, increasing time pressures are affecting consumer information search, the use of recommended practices and complaining. These changes in the social environment, especially time pressures, suggest that, in the future consumers will be more selective in taking action on their concerns. Action is likely to be taken only on the most involving issues and concerns.

One of the principal focuses of social science research is understanding the linkage between attitudes and behavior. Social scientists have made continuing efforts to understand how beliefs, judgments and intentions shape behavioral outcomes. Some of these efforts have looked at the context within which the individual is operating and within which behavior occurs, and how this affects the attitude-behavior link.

There are many ways in which contextual factors that can affect the attitude-behavior link. The urging of a friend, for example, may get us to buy a brand we view unfavorably. The influence of the friend has a brief effect in time and space creating a short-lived situational effect (Belk, 1975). Contextual influences may, however, be longer-run and continue largely unchanged for years, as would be the case for the legal environment--the set of laws, procedures and institutions governing legal relations.

This paper will focus on changes in the environment of consumer decisions created by changing social norms and increasingly widespread feelings of time pressure. It looks specifically at how these changes affect some of the consumer behaviors in which we are most interested: information search, the use of recommended practices and complaining.

CHANGING SOCIAL NORMS

When sociologists speak of norms they are talking about the social rules which specify appropriate behavior for a particular society. Deviation from these rules will be punished by social disapproval. While these rules are slow to change, they are not immutable. We have, in fact, seen some important changes in attitudes toward the idea of consumer-supported product testing and the resultant product ratings over the last 50 years.

Information Search

Only a few of today's consumers are aware of the stigma under which Consumers Union labored in the 1930s and 1940s. Over 60 newspapers and magazines including the Hearst publications and the New York Times refused CU's advertising on the grounds that Consumer Reports' ratings constituted an unfair and subversive attack upon advertising (Silber, 1983). Not only was CU frozen out of the advertising pages, it also was attacked editorially by both Good Housekeeping and Women's Home Companion. CU's unconventional approach and the radical views of some of its leadership also got it into political difficulties. In 1938 it was investigated for subversive activities by the notorious House Un-American Activities Committee chaired by Martin Dies of Texas. CU remained under a cloud until it was removed from the Committee's list of subversive organizations in 1954 (Silber, 1983).

Few consumers remember these allegations today. Instead, CU and its test reports are regarded as a model of dispassionate neutrality. In fact, Consumer Reports is regularly cited in business school consumer behavior texts as an example of independent or neutral information sources (e.g., Hawkins, Best and Coney, 1989). The social stigma on Consumer Reports subscribership and the use of its information is gone. At the same time, attitudes toward participation the consumer movement also seem to have changed.

Complaint Behavior

Nobody seems to like a complainer. As a result, consumer complainers are under some social constraint to demonstrate that their complaints are justified and reasonable. The traditional view seems to be that if problems arise, they somehow are the fault of the consumer: directions have been ignored, the wrong product chosen or expectations set too high.

The social constraints on complaining are reinforced by the traditions of American law. Tradition dictates that legal complaints be treated on a case-by-case basis and works against grouping complaintants into classes. This case-by-case tradition grows out of a recognition that this is the most profitable arrangement for attorneys and is reinforced by American traditions of individualism (Nader, 1980). Somehow, the public welfare is expected to result from the assertion of individual rights in the same way that individual pursuit of economic gain makes markets function better.

The case-by-case approach of American law causes individual complaints to be seen as unique, unusual and atypical. This perception is reinforced by business' efforts to keep complaints confidential (allegedly to protect the privacy of the complainers). The result is that individual complaints typically are not seen as part of broader, more widespread problems and the development of public awareness and concern is inhibited (Nader, 1980).

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The isolation of the individual consumer with problems makes it easier for a business to suggest that the complainer is an eccentric or deviant. Nader (1980) notes that this is a prime technique of control. Statements such as "You are the only one who has complained about this," suggest that the complainer is out-of-line or that their experience is atypical. This technique coupled with the social pressures against complaining have been important factors in deterring complaining.

Best (1981) notes that most people wish to avoid being seen as complainers. In a 1975 survey, 90 percent of the adults questioned said they made about the same number of complaints or fewer than other households. Only a small group said they complained more than average. Statistically this seems unlikely. The pattern of the responses suggests that the respondents understated their complaint activity because of the perceived social stigma on complaining.

While there may be efforts to make complainers feel like deviants, the evidence suggests that they are not. They seem, instead, to be the pillars of their communities. The most active complainers have been found also to be politically active members of the middle and upper middle class with above average educations and incomes, who are middle-aged and long-time residents of their communities (Warland, Herrmann and Moore, 1986).

The social stigma on complaining may be easing. Several factors seem to be working to make complaining more socially acceptable. One is the obvious willingness of some major corporations to receive complaints as evidenced by their creation of 800 numbers and the publicity given to them. If major corporations welcome complaints, can complaining really be bad? A second factor is the widespread coverage given to consumer problems, product recalls and safety issues by the media. If some problems are widespread, are we really atypical or eccentric if we complain? The coverage of consumer complaining in consumer education texts and educational materials also helps to legitimize complaining. If the federal government's U.S. Office of Consumer Affairs' Consumer's Resource Handbook tells us how to complain and encourages us to do so, can complaining be wrong? Further, if the pillars of the community are active complainers, can complaining really be socially unacceptable?

TIME PRESSURE

The general perception of the American public seems to be that the time pressures of everyday life have increased. Reports of "always feeling rushed" have been found to be more common than one or two decades ago (Robinson, 1990). The feelings of time pressure seem to be particularly widespread among the sizable middle-aged category which includes the Baby Boomers. The Baby Boomers' perceptions of their situation are of interest since, because of their numbers, they seem to set the tone of our society. When the Baby Boomers were teen-agers we had the "Youth Explosion," and when they were beginning their careers we had the "Me Decade." Now, when they are starting their families and trying to keep their careers going at the same time, we have "The Time-pressed Society." Ten or twenty years from now when the time pressures on this group ease we are likely to have "The Leisure Society."

Time pressures can be regarded as a proxy for the opportunity cost of time. When time pressures are high, the time cost of an activity becomes higher, and the activity is likely to be eliminated or scaled back. Statistically this effect can be thought of as a direct effect, which typically is negative. If these negative direct effects are sporadic or occasional, they may be regarded as situational. Continuing time pressures may create a longer run environmental effect which influences the relationship between attitude and behavior. Statistically this may take the form of an interaction between attitude and time pressure. When time pressures persist over a longer period, individuals may evolve strategies to deal with them. For example, if high involvement or commitment to a particular concern occurs in combination with high time pressure, an individual may give priority to the associated behavior and scale back other activities. This will have the effect of offsetting the negative direct effects of time pressure.

Information Search

Preliminary work indicates that time pressures affect the use of a variety of different information sources dealing with food and nutrition (Herrmann and Warland, 1990). Four different dimensions of involvement which affect information use were identified. These dimensions included health concerns, econonmy concerns, enjoyment and self-image factors. The relationship of these involvement dimensions to the use of nine different information sources was examined.

The involvement dimensions were found to have differing effects on the use of the information sources under high and low time pressure. The results suggest that those who were highly time-pressed and were also highly involved with food and nutrition made time to use selected information sources.

Use of Recommended Practices

The effects of time pressure at meal time on the use of recommended nutritional practices also has been examined (Warland, Herrmann and Kassab, 1990). Time pressure was found to have a depressing effect on the use of recommended dietary practices, as might be expected. This suggests that increasing levels of time pressure in this country could have negative effects on the quality of diets.

Time pressure was, however, found to increase commitment to good dietary practices among those who were nutritionally concerned. Under high time pressure, those who were most nutritionally involved were almost as likely to use good practices as those who were under low time pressure. In other words, those who felt nutrition was important despite high time pressure at meals were almost as likely to follow through on their concerns as those under low time pressure.

In contrast, those who had little involvement with nutrition behaved as would be expected. Those who were under less time pressure followed through in using recommended practices more than those who were time pressed. The results indicate that time pressure interacts with involvement, and has the effect of strengthening the commitment of the involved and depressing the behavior of the less committed.

Complaint Behavior

There are no studies of the effect of time pressure on complaining behavior. Time pressures can be expected to have a negative effect on complaining, just as they do for most other activities. This suggests that the present level of complaining is lower than it might be if American consumers were less pressed. Despite time pressures, time-pressed consumers seem likely to complain if involvement is high. This can occur if the problem involves product safety, if the product is costly, or if the product is linked to particular personal interests (e.g., cars cooking, clothing and fashion, etc.).

CONCLUSIONS

While the social norms which limited some consumer activities in the past are easing, increasing time pressures are putting a different type of constraint on these activities. Time pressures are likely to have especially important effects since the group most affected, the middle-aged, typically has been found to be active information seekers and complainers.

One result is that we are likely to see increasing selectivity among consumers in the actions they take. For many, only the most involving concerns will be acted upon. These involving concerns seem likely to include the following:

- o health/safety problems
- o problems involving costly items
- o high involvement products (e.g., cars and also auto insurance, cable TV
- o highly involving issues, such as problems affecting children and the helpless.

Consumers concerns are likely to result in action only if some clear remedial measures are available. This will constrain action in several areas:

- o the discussions of radon problems have not spelled out remedial measures clearly
- o no-fault auto insurance proposals seem complex to many consumers, and their record of success seems ambiguous.

Recycling, on the other hand, seems relatively simple. There will be strong support for recycling from consumer activists. The characteristics of consumer activists and environmental activists are much the same. In fact, they probably often are the same people. There are, however, problems for consumer recyclers which need attention. Some pick-up systems such as curbside pick-up are a burden for the elderly. Consumer groups may need to help in developing "user friendly" systems.

The biggest limitation upon consumer action may be the complexity of today's problems. Many of the simpler problems have been dealt with and it seems that those which remain all are difficult. Given the complexity of today's consumer problems we are fortunate have consumer organizations such as Consumers Union and the public interest organizations. They have the time and the technical expertise to examine the problems confronting consumers and to develop solutions in the consumers' interest.

REFERENCES

Belk, Russell W. (1975), "Situational Variables and Consumer Behavior," Journal of Consumer Research, 2 (No. 3; December): 157-164.

Best, Arthur (1981), When Consumers Complain, New York: Columbia University Press.

Hawkins, Del I., Roger J. Best and Kenneth A. Coney (1989), Consumer Behavior: Implications for Marketing Strategy, Homewood, IL: BPI-Irwin.

Herrmann, R.O., and R. H. Warland (1990), "Low Involvement and Time Pressure as Barriers to Consumer Information Search," paper prepared for presentation at 22nd International Congress of Applied Psychology, Kyoto, Japan.

Nader, Laura and Christopher Shugart (1980), "Old Solutions for Old Problems," in Laura Nader (ed.), No Access to Law: Alternatives to the American Judicial System, New York: Academic Press, 57-110.

Robinson, John P. (1990), "The Time Squeeze," American Demographics, 12(No. 2; February): 30-35.

Silber, Norman Isaac (1983), Test and Protest: The Influence of Consumers Union, New York: Holmes & Meier.

Warland, Rex H., Robert O. Herrmann and Dan E. Moore (1986), "Consumer Activism, Community Activism and the Consumer Movement," in Paul N. Bloom and Ruth Belk Smith (eds.), The Future of Consumerism, Lexington, MA: Lexington Books, 85-95.

Warland, Rex H., Robert O. Herrmann and Cathy Kassab (1990), "Time Constraints and Consumer Decision-Making: An Examination of the Conditional Effect of Time Pressure" in Mary L. Carsky (ed.), Proceedings of the 36th Annual Conference, Columbia, MO: American Council on Consumer Interests, (forthcoming).

EMERGING CONSUMER ISSUES IN THE 1990'S

Camille Haney, The Haney Group
Lee Richardson, D.B.A., University of Baltimore

This report is a national survey of consumer leaders to determine which issues will be of greatest concern to state and local consumer organizations during the next decade.

ABOUT THIS SURVEY

The American Council on Consumer Interests (ACCI) 1990 Annual Meeting featured a panel discussion, Emerging Consumer Issues in the 1990's to discuss issues which will be addressed by consumer leaders during the next decade.

In order to insure that issues of importance to state and local consumer groups were included in that discussion, a survey was sent to over 300 state and local consumer and public interest organizations, including local affiliates of the Consumer Federation of America, advocates for the elderly, Public Interest Research Groups, community action and low-income organizations from all 50 states.

We were interested in identifying national and state-level issues that these local organizations thought were critical as well as the issues the groups would be working on in their own communities during the next year. We also asked these consumer opinion leaders who they feel is doing a better job of serving and protecting U.S. consumers today as compared to 1985. Finally, we wanted to learn whether these organizations--who work directly with consumers every day--feel that consumers are better off or worse off now than they were five years ago.

In addition to our survey of consumer opinion leaders, we contacted a number of consumer and public affairs executives in business to ask them to identify the consumer issues of primary concern to their industries during the coming year. Interestingly, and perhaps not surprisingly, there was agreement on the two top issues: THE ENVIRONMENT AND HEALTH CARE. Both groups also agreed that we are experiencing a rise in ANTI-BUSINESS sentiment.

While it is instructive to look at percentages and rankings of issues, some of the most interesting insights come from additional comments offered by respondents in their own words. We were particularly struck by the resilient tone of Margaret Lueders, a Gray Panther member who is an officer of both the Seattle chapter and the national board, who said, "I feel as if the public trust has been misused and squandered as cover-ups and misdeeds come to light--especially during the 1980-88 Reagan administration--but I also see the cup as half full, not half empty! Therefore, I think consumers are a little better off now than they were five years ago." This comment seems to capture the very essence of the consumer movement: the ability to see what's wrong coupled with a positive attitude about the possibility of making things better.

During the twenty-some years that we have been working together on consumer education and advocacy efforts, we have seen numerous shifts in consumer priorities. Changes in focus are based on changing needs. Regardless of specific issues or trends, the consumer movement IS what the consumer movement DOES. This is why we feel it is important to survey grassroots leaders who deal directly with consumers every day to identify the issues on which their organizations are working. A special thanks to those who took time from their advocacy work to share their thoughts and concerns with us.

Preliminary results of this survey were presented at the ACCI annual Meeting in New Orleans on March 30th and sparked a lively discussion. The release of the final survey report today is timed to stimulate interest in consumer issues during the ninth annual National Consumers Week coordinated by the U.S. Office of Consumer Affairs which has as its theme: "1990: New Consumer Horizons."

RESULTS

Survey Results: Questions And Responses

(Some totals do not add up to 100% due to rounding or multiple responses)

1. WHAT ARE THE THREE MOST IMPORTANT NATIONAL CONSUMER ISSUES THAT SHOULD BE ADDRESSED IN 1990?

19%	Health care/health insurance
16%	Environment (including: Recycling Packaging Solid/nuclear waste Air pollution Energy conservation)
9%	Product/food safety (including product and food labeling)
8%	Housing
6%	Auto insurance
4%	Regulation (FTC, FCC, health clubs, utilities)
3%	Banking costs
3%	Credit laws/consumer protections
3%	Federal budget/inflation/social security
3%	Telecommunications/telephones
2%	Disarmament/foreign aid
2%	Education

Note: An additional 24 issues were named.

2. WHAT ARE THE THREE MOST IMPORTANT STATE/LOCAL CONSUMER ISSUES THAT SHOULD BE ADDRESSED IN 1990?

13% Health care/health insurance
12% Environment (including:
    Water quality
    Recycling)
10% Auto insurance
7% Housing/homeless
6% Food labeling and safety
6% Prices (item pricing, food, farm commodities, interest rates, etc.)
6% Utility costs and service
4% Fair taxes
4% Telecommunications
3% Banking/financial services
3% Education
3% Mass transit
3% Cars - used/repairs
2% "Basic needs"
2% Drug abuse
2% Health/environmental scams
2% Insurance - unspecified
Note: An additional 22 issues were named.

3. REGARDLESS OF YOUR ANSWERS TO THE ABOVE QUESTIONS, WILL YOUR ORGANIZATION BE WORKING ON THE FOLLOWING ISSUES IN THE NEXT YEAR?

	YES %	UNDECIDED %	NO %
Conserving the Environment	65	7	27
Health insurance	49	18	32
Product recyling	45	11	44
Food labeling	44	12	45
Auto insurance	38	20	42
Product liability	37	7	56
Indoor air pollution	34	14	52
Advertising claims	30	7	63
Telecommunications competition	20	18	63
Cable TV cost/ service	13	23	65
Biotechnology	13	11	76
Air travel/safety	6	10	85

4. COMPARED TO FIVE YEARS AGO, ARE THE FOLLOWING DOING A BETTER OR WORSE JOB TO SERVE OR PROTECT U.S. CONSUMERS--OR ABOUT THE SAME?

	BETTER %	WORSE %	ABOUT THE SAME %
National Consumer Groups	57	6	37
State/Local Consumer Groups	57	9	34
Environmental Protection Agency	35	32	33
Media	33	27	41
Educators	33	11	57
Consumer Product Safety Commission	25	30	45
U.S. Congress	25	18	57
State/Local Consumer Agencies	23	15	62
President	21	24	55
State Legislature (own)	21	32	47
Food & Drug Administration	20	35	45
Foreign Corporations	19	34	47
Federal Trade Commission	18	26	56
U.S. Department of Agriculture	14	27	59
U.S. Corporations	13	47	40

5. OVERALL, DO YOU THINK CONSUMERS TODAY ARE BETTER OR WORSE OFF--OR ABOUT THE SAME--COMPARED TO FIVE YEARS AGO?

55% WORSE OFF
26% ABOUT THE SAME
19% BETTER OFF

6. ANY OTHER THOUGHTS OR IDEAS?

Leadership

More than half of all respondents took time to add comments, with nearly one-third of these expressing concern about leadership. A Pennsylvania advocate said simply, "We are not getting the leadership we need on the federal and state level." Another emphasized, "The consumer public is far ahead of the governmental agencies and units, whose politicized stands yield mostly foot-dragging on consumer protection; industry and the dollar always seem to take priority." And a third warned, "Without clear leadership and sufficient funding, our consumer problems will only worsen."

Consumer Apprehension

A Midwestern leader stated, "Consumers are more apprehensive and more confused: there is less effort being expended to make decision-making easier for consumers." And the criticism, "Business and industry are doing `better' while consumers are `losing ground,'" leveled by a national group's California affiliate was echoed by others.

Pollution...Childcare...Education...

Comments covered the "waterfront," such as, "The pollution of the nation's waterways are on the rise, same as with the air we breath; stricter standards must be enforced NOW" and "A GOOD health system...and GOOD affordable childcare must be available to all Americans," and "Education is the key factor: too many consumers are led by an `image' of what is supposed to be better." Consumer education, especially in low income communities, was another priority expressed.

Diversity of Issues...

The number and range of issues being addressed can be viewed as both a strength and weakness of the consumer movement. The interests certainly seem to be there, but the diversity may prevent more than just one or two issues from being widely pushed and supported. Said one group leader, "I would like to see better organization of consumer groups and advocates in order to make more of an impact on the national level."

Corporate Concerns...

A number of corporate, consumer and public affairs executives were also queried for their views. Their responses showed agreement with consumer leaders that the major issues facing their industries are health care and the environment. They also volunteered that anti-business sentiment is on the rise. Regarding the environment, one said, "Recycling is taking on a special place with consumers as a priority that equates it with education; the question is which environmental topic will occupy the public's attention."

Another addressed car insurance and stated pointedly, "the problem needs to be dealt with before cars become unaffordable; we need to look at true reasons rates are so high."

Finally, on a positive note, one executive wanted to tell consumer groups, "Business-consumer cooperation is gaining strength as a strategy, both inside and outside industry; it reduces cost and raises value."

SURVEY PROCESS

Objectives:

To determine what state and local consumer leaders feel are the most important issues that should be addressed in the coming decade, both at the national and state level.

To identify issues that state and local organizations will actually be working on during the next year.

To determine who is doing a better--or worse--job of serving and protecting U.S. consumers.

Participants:

Participants included state and local consumer and public interest organization leaders, advocates for the elderly, Public Interest Research Groups, community action and low-income organizations from all 50 states.

Methodology:

A mail survey was sent to 330 organizations in mid-March, 1990. Roughly one-quarter responded. Survey questions were both open-ended and "check-off" in nature and additional comments were encouraged.

Researchers:

The study was conducted by Camille Haney, President of The Haney Group, a consumer education and research organization in Madison, Wisconsin and Lee Richardson, D.B.A., University of Baltimore.

Camille Haney headed the Wisconsin Attorney General's Office of Consumer Protection, is a past President of the National society of consumer Affairs Professionals in Business, was a two-term member of the White House Consumer Advisory Council and serves on the executive committee of the National Council of Better Business Bureaus. She founded a consultancy on consumer affairs to assist business in understanding the interests of consumer constituencies, and in working with consumers to achieve mutually beneficial change in the public policy arena and in the marketplace. She has conducted consumer opinion leader research for two decades and is a member of a number of government advisory committees and consumer organizations.

Lee Richardson, D.B.A., is a member of the faculty of the University of Baltimore, served as Consumer Education Director in the U.S. Office of Consumer Affairs, was member of the White House Consumer Advisory Council, served as President of the Consumer Federation of America (CFA), and is currently the American Council on Consumer Interests representative to CFA. He is a member of the National Advertising Review Board and Executive Director of the Maryland Citizens Consumer Council, and served as Director of the Federal Energy Administration's Office of Consumer Affairs. Dr. Richardson has written and lectured extensively on consumer issues.

DEVELOPMENT OF EXPERT SYSTEMS SOFTWARE FOR CONSUMERS

Sherman Hanna, The Ohio State University[1]

The most narrow definition of an expert system is a computer program designed to duplicate part of the decision-making expertise of a human expert. An expert system includes a knowledge base composed of facts and rules about a particular domain, and an inference engine. The user of the expert system may interact with the expert system through a computer keyboard or other device, and the expert system may have an explanation subsystem built into it. Expert systems have been used for interpretation, diagnosis, prediction, instruction, and control in fields such as manufacturing, medicine, consumer credit, and financial analysis. Expert systems can reduce the training needed by professionals or perhaps even could even be operated by consumers. Useful expert systems are very expensive to develop. A human expert may know 50,000 rules. While it is unlikely that one would need to incorporate all of an expert's knowledge into one computer program, it can take a year or more to develop an expert system, and more time to implement and evaluate such a system.

Corporate development of expert systems for commercial use is proceeding. Billions of dollars will be devoted to such efforts in the next ten years. While commercial development of software will fill some needs for some clienteles, it is unlikely to suffice in meeting most emerging personal, educational and research needs. Commercial software, by definition, must be purchased and therefore is only accessible to those who can afford to pay. Given this fact, commercial software is likely to be designed to meet the needs of a predominantly higher income audience--for example, programs designed to assist in the management of stock portfolios. In addition, commercial programs are unlikely to be research-based or to offer the possibility of modification as a result of research findings. Expert systems can be a superior tool for resource allocation decisions compared to printed materials, which can provide professionals and consumers with the information needed to make decisions but have limited potential for assisting in the actual process of decision making. In addition, the user of printed materials must be fairly literate and numerate, as well as motivated, in order to make appropriate use of the materials. Expert systems can greatly reduce these demands on the decision maker by guiding him or her step by step through a complex process. Expected future developments in computers, including declining cost and increased memory and speed, will further increase the advantages of expert systems as decision aids.

Some issues related to expert systems were discussed the 1986 Wingspread Conference (Russo,1988; Talarzyck, 1988). However, very little guidance has been provided for developers of expert systems software for consumers. The roundtable addressed issues such as the following:

1. What applications of expert systems for consumers will be most promising? Some simple, obvious applications involve any topic that now uses printed worksheets. The potential advantages of expert systems software includes easier development by nonprogrammers using the more powerful expert systems shells recently introduced.

2. What methods of financing expert system development are feasible? Is non-commercial development practical?

3. What level of user sophistication should be assumed, both in terms of hardware use (many people cannot use a keyboard) and cognitive limitations of many consumers.

4. Are there human experts for most consumer problems? The standard method for development of expert systems in industry is to extensively interview a human expert. Many consumer problems may involve diverse and/or poorly defined goals, which will make the development of expert systems much more difficult than in industry, where cost minimization or profit maximization may provide a clearly defined "bottom line."

Barry Reid of the Georgia Governor's Office of Consumer Affairs, suggested that expert systems could provide a resource for public sector consumer complaint handling, such as in a state attorney general's office. There is a need for expert systems software with such an application, because of the rapid growth in the volume and complexity of complaints.

REFERENCES

Russo, J. Edward (1988). "Information Processing from the Consumer's Perspective," The Frontier of Research in the Consumer Interest, E. Scott Maynes (ed.), American Council on Consumer Interests.

Talarzyck, W. Wayne (1988). "New Technologies in Consumer Information," The Frontier of Research in the Consumer Interest, E. Scott Maynes (ed.), American Council on Consumer Interests.

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ROUNDTABLE
MIDDLEYEAR CHILDREN AS CONSUMERS

1990 American Council on Consumer Interests

Barbara M. Heinzerling, J.D.[1]

Recent marketing studies document that children ages 6 to 12 are surprisingly independent and influential consumers. While many companies have studied children's reactions to their products and advertising, there has been a lack of systematic research that looks at middleyear children's preferences, income, spending, and how they influence purchases in the context of their family life.

Today, there are 20 million 6 to 11 year old children with a projection that there will be 23 million by the year 1995. Children, 9 to 12, spend nearly all of the $4.75 billion dollars they receive annually from allowances, gifts and earnings. In addition, a considerable amount of money is spent on the average child as the 1988 estimate of the USDA is that such a child will cost more than $100,000 to raise to age 18, while in 1980 that figure was less than $75,000. Children gain early experience in those activities collectively termed the "consumer role" that are expected of them in the natural growth sequence characteristic of our society. They first play role at about age 4, and by 7 to 12 years are playing this consumer role in many dimensions.

Children's influence on buying goes beyond their own purchases. When it comes to purchasing power its kids who wear the pants in the family, according to the second annual Nickelodeon/ Yankeclovich Youth Monitor. A respectable 13 percent of 6 to 11 year olds buy clothes with their own money. Factoring in the children who buy clothes accompanied by their parents, the figure is 66%. An even larger percent influence the brand of tennis shoes which they wear and influence where the shopping occurs.

The roundtable will address issues such as the following:

1. What areas of research are needed in considering the performance of children in the consumer role? Have the areas of television advertising and money management been too extensively researched with virtually no research in other important areas? What areas of children's performance are the most promising for future research? What are the ethical concerns in conducting research on children?

2. Which of the following theories holds the most promise for conducting research on children? Which of these theories has been used to date and in what areas?

THEORETICAL FRAMEWORKS TO GUIDE CONSUMER BEHAVIOR RESEARCH ON CHILDREN

Attitude Behavior theory
Attitude Consistency theory
Attitude Formation theory
Cognitive Components theory
Cognitive Processes theory
Cognitive Quality theory
Decision theory
Demographics
Developmental theory
Economics theory
Ethics theory
Information Processing theory
Learning theory
Motivation theory
Perception theory
Situational Variables
Social Class theory
Social Interaction theory
Socialization theory
Values

3. What educational programs exist for assisting children in the consumer role? How can teachers and parents be educated in order to assist in the education of children for the consumer role: What are the appropriate roles in consumer education of children for the parent, the school, the business person.

Participants in the roundtable represented a variety of professional positions and viewpoints. Considerable discussion lead to the development of a number of suggested avenues of pursuit of the topic.

REFERENCES

Agnew, J. (1987). "Brand Licensers Become Increasingly Clothes-Minded," Marketing News. July, Vol. 21, No. 16, p. 1.

Agnew, J. (1987). "Children Come Of Age as Consumers," Marketing News. December, p. 8.

Kesler, L. (1987). "Licensing Extensions Leave Brand in New Areas," Advertising Age. June, S-1.

McNeal, James (1987). Children as Consumers. D. C. Heath and Company.

Spindler, A. (1988). "The Big Name Game," Daily News Record. July, pgs. 5, 10.

Stern, S. (1986). "The End of Their Short Life Spans," Advertising Age. June.

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[1] Associate Professor, Consumer Education

Wallach, J. (1986). "Some Strategies for Selling Sophisticated Updated Fashions for Trendy Little Girls," Stores. August.

___________. (1988). "Gitano's Total Look," Women's Wear Daily. January.

OUTCOMES ASSESSMENT OF UNDERGRADUATE CONSUMER PROGRAMS

Carole J. Makela, Colorado State University[1]

Higher education has been asked or mandated to develop and implement outcomes assessment or value added testing. The essence of Colorado's mandate is to 'provide a way for colleges to inform potential students of performance expectations.' It is important to explore opportunities among consumer programs to optimize efforts for comparatively small programs.

Higher education has been asked or mandated by legislatures, governing boards, and/or commissions to develop and implement outcomes' assessment or value added testing. The Education Secretary challenged higher education with a list of goals for the year 2000 related to student proficiency and mastery (Bacon 1990). Reasons given for assessment are to provide consumers (student, employers, etc.) with accurate, timely information on student, program, and institutional performance; improve instruction; and provide data for accountability.

Assessment efforts whether voluntary or mandatory are in the early stages. There is neither extensive experience nor a body of research to build upon in fulfilling requirements. Institutions and programs developing and refining assessment efforts are taking approaches that span the spectrum from use of general assessment instruments (e.g., ACT College Outcome Measures Program) to measure general education outcomes at the college level to identification of measures collected over time at the program or major level.

The essence of the Colorado mandate is to 'provide a way for colleges to inform potential students of performance expectations.' Institutions are to annually report students' performance and achievement to the Colorado Commission of Higher Education, legislature, and public. Failure to implement an accountability program can result in loss of up to two percent of state funding to the University. Programs are to be assessed at the major level in addition to the university level which appears to be independent of department plans. A plan should include:

(1) Goals and Objectives for knowledge, skills, and capacity that are qualifiable and easily evaluated with data including retention, completion, after graduation performance, student/alumni satisfaction;
(2) Means of gathering and assessing data;
(3) Plans to disseminate data (as widely as possible to interested parties); and
(4) Plans for using data in curriculum change, teaching methods, and assessment procedures.

The plan for our major, Consumer Sciences, includes the following assessment factors:

(1) Satisfactory completion of specific experiences (projects, papers, presentations, internship, etc.);
(2) Overall performance;
(3) Pre and post assessment of skills and knowledge identified with the major; and
(4) Post baccalaureate evidence of graduate study, continuing education, certification or licensure, career advancement, citizen participation, life satisfaction.

Though this is a beginning, review of courses and other student activities to ensure inclusion of a breadth of experiences has begun. In advising, students are encouraged to seek volunteer and intern experiences that enhance learning. Concerns center around identification and use of appropriate measures, resource demands to initiate and implement this effort, and potential uses and misuses of assessment. The Commission on Institutions of Higher Education noted that assessment should provide an institution with decision making information.

It is important to explore opportunities for common and/or joint efforts among consumer programs to optimize efforts for comparatively small programs at universities. Bureaucrats, potential students, parents, or faculty looking for new locations, etc., will attempt comparisons of the outcomes reported whether or not that is the intent. The message already received is that although each major is to develop a plan, the Commission expects to do inter-institutional comparisons.

Some questions need pursuing. If a program targets transfer students, can similar outcomes be expected for non-transfer students? What are suitable measures of outcomes? When and how often should data be collected? How is teaching to an assessment program discouraged or encouraged? If the system has an incentive plan, how can consumer programs earn a fair share? The list of questions is long.

REFERENCES

Bacon, Kenneth H. (1990), Education Secretary Calls on Colleges to Raise Standards, Wall Street Journal, 122 (5;January 22): B5A.

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CHANGES IN STUDENTS' PERCEPTIONS TOWARD STUDENT LOAN INDEBTEDNESS FROM THE FRESHMEN TO SENIOR YEAR

M. M. (PEGGY) WHAN, AND SHEILA MAMMEN

ABSTRACT

College students become victims of uninformed consumer choice when they unwittingly burden themselves with large amounts of student loans. The high debt loads could mortgage the students' future, a time when they have a variety of other demands placed on their income. Results of a study indicate that students' perceive their debt as having little or no impact on their future level of living. They perceive their parents as being aware of but mainly unconcerned about the debt level of their children.

Student borrowing for college education has increased dramatically in the last few years. The accumulation of school loans without considering the potential income of their chosen academic field or the impact of this debt on their future level of living could create financial difficulties for students when they graduate. At a time when the graduates have a variety of other demands placed on their income, repayment of a large student loan could produce an additional hardship. However, there is little evidence that students, parents, and/or educators have paid much attention to how such consumer indebtedness will impact the future lives of these young people.

The study reported here has three specific objectives:

-Determine how students perceive the future impact of the student debt they undertake as undergraduates.

-Determine how students' perception about the impact of their debt load changes from the freshman to senior year of study.

-Determine students' perceptions of their parents' awareness and concern level toward their children's debt load.

A survey instrument was developed and administered to 209 undergraduate students at the University of Arkansas (N = 77) and the University of Massachusetts (N = 132). Students in consumer economics classes and fashion marketing classes were chosen to participate in the survey to see if students in consumer economics courses would have a higher awareness level of the impact of student loans on their future. The fashion marketing program is the largest nonconsumer economics program at both schools. The sample consisted overwhelmingly of female students (AR = 13%; MA = 11.8%) and were mainly between the ages of 19 and 22.

Results of the survey indicated that scholarships (AR = 28.6%; MA = 34.1%), loans (AR = 26.0%; MA = 31.8%), and the work study program (AR = 14.3%; MA = 16.7%) were sources of money for students at both universities. A greater percentage of Arkansas students held small loans of less than $2,000 (AR = 40%; MA = 26.2%), while a greater percentage of Massachusetts students held large loans of $7-10,000 (AR = 5%; MA = 16.7%). Loans of more than $5,000 were held exclusively by seniors in Arkansas. Seniors were more likely to have loans of more than $5,000 in Massachusetts, however, sophomores and juniors had also borrowed similar amounts.

The majority of students at both schools used their loan money for tuition. Those who borrowed amounts greater than $2,000 were more likely to use their loan money for books as well as living expenses. The students in the survey represented several fields of study in Home Economics. No clear pattern between amounts borrowed and majors of students emerged.

Anticipated income upon graduation ranged from less than $20,000 to over $40,000, with the majority of students at both schools expecting to earn between $20,000 and $24,000. Those in Arkansas who borrowed over $5,000 anticipated incomes under $20,000 or between $20,000 and $24,000. Among student borrowers in Massachusetts with loans over $5,000, the anticipated income ranged from $20,000 to more than $40,000.

In both schools, the majority of students who borrowed under $7,000 reported that they expected their student loans to have little or no impact on their future level of living. Students in Arkansas who had borrowed over $7,000 expected their loans to significantly lower their future level of living. While some students in Massachusetts with over $7,000 in loans expected a significantly lowered level of living (14.3%), the majority (85.7%) expected their school loans to only slightly lower their future level of living.

Generally, parents of student borrowers were aware of the amount of debt their children had incurred to attend school. However, the majority of students perceived their parents as not being concerned about the children's amount of debt; the effect of repayment amounts on the children's future level of living; and the length of repayment time. Students who had borrowed more than $5,000 reported higher level of concern among their parents.

In summary, students expect their loans to have little impact on their future adult life. There has been a gradual change in the way people view debt and, in general, there is less concern about the impact of debt on individuals and society. The results presented here is merely a reflection of that societal change. Consumer economists need to develop ways to educate the public regarding the impact of consumer debt on their desired level of living.

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FINDINGS OF THE ACCI MEMBER SURVEY (ROUNDTABLE DISCUSSION SUMMARY)

Jane Schuchardt, U.S. Department of Agriculture[1]

Increasing ACCI's viability and vitality in the 1990s requires increased consumer policy analysis, membership diversity, and membership retention. These were the key recommendations resulting from the 1989 survey of ACCI members. Roundtable participants discussed ways to implement these recommendations.

WHY A MEMBERSHIP SURVEY?

In September 1989, surveys were mailed to the 832 individual members of ACCI. Seventy-one percent were regular voting members, 11 percent associate members, and 18 percent student members. The budget did not allow for a follow-up mailing.

The ACCI Future Directions Committee wanted a general, all-member assessment of ACCI and some specific "consumer feedback" on ACCI publications. Of special interest was the new journal, *Advancing the Consumer Interest*. One issue was available to membership at the time of the survey.

WHO RESPONDED?

Responses were received from 271 members, a rate of 33 percent. All but 7 percent of the respondents had a graduate degree. Most had a doctorate (59 percent). University or college positions (76 percent, including Extension) were most common. Only 6 percent represented the business sector; 5 percent were employed by a government agency.

The respondents were nearly equally split between researchers and practitioners. Fifty-six percent gave their primary field of interest as consumer economics; 14 percent home economics. A limited number--less than 5 percent each--identified themselves with economics, marketing, management, education, psychology/sociology, or communications.

Nearly 60 percent had been ACCI members six years or more. Another 20 percent had been members three to five years.

GENERAL ASSESSMENT OF ACCI

Most responses were positive, especially with relation to member services and opportunities for professional development. Members were not as positive about the responsiveness of ACCI leadership to member concerns and the chance for membership involvement.

Nearly nine out of 10 respondents said ACCI was a good investment of resources, provided useful services, and allowed for professional development. Slightly more than seven out of 10 agreed ACCI was a progressive organization.

When asked for the single most important reason for joining ACCI, common responses were professional contacts (37 percent), staying informed (35 percent), and obtaining ACCI publications (24 percent). On the topic of offering sufficient opportunities for member involvement, 65 percent agreed this was the case, 15 percent disagreed; 20 percent gave a neutral response. Sixty percent agreed leadership was responsive; 35 percent gave a neutral response; 4 percent disagreed.

FUTURE DIRECTIONS FOR ACCI

Roundtable discussants tended to agree with survey responses calling for increased consumer policy analysis, membership diversity, and membership retention. Suggested action steps were to:

1) develop an agenda for applied, action research that analyzes policy impacts, focuses on critical issues facing consumers, and has direct benefit to educators;

2) launch an aggressive membership drive to attract academics in related fields (e.g., economics, business, consumer psychology), representatives from business, government, and law, and professionals of different races and ethnic backgrounds; and

3) increase efforts to improve membership commitment, leading to retention. This could include a broadening of the leadership base of ACCI, taking steps to recognize and retain new members, and offering students opportunity to develop professionally through active participation in the organization.

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[1] National Program Leader, Extension Service. Other members on the 1989-90 Future Directions Committee were Sheila Mammen, University of Massachusetts, and Barbara Heinzerling, University of Akron, Ohio. The committee gratefully acknowledges the efforts of Anita Metzen, ACCI Executive Director, and her staff for mailing the survey and tabulating the responses. A copy of the detailed statistical analysis is available from ACCI headquarters, 240 Stanley Hall, University of Missouri-Columbia, Columbia, MO 65211.

THE GENERATIONAL EQUITY DEBATE

Marlene S. Stum, University of Minnesota[1]

Debates over the meaning of "generational equity" and the implications for consumers of all ages have evolved in this country. This roundtable was designed to stimulate discussion about current and projected research and educational roles in relation to the issue. The facilitator provided insight into educational programming relating to generational equity issues sponsored by the Minnesota Extension Service. Participants shared examples of specific policy issues, research projects, and educational efforts.

INTRODUCTION

"Generational equity" and "intergenerational inequity" have become catch-all slogans for a number of societal concerns and are being used as arguments for change in policies affecting individuals of all ages. In a society with limited resources, controversy has evolved regarding the proportion of public resources that certain age groups are receiving as well as how certain age groups are faring in our society. Are those over 65 receiving a disproportionate share of resources in comparison to the young? In comparison to the have-nots?

What criteria should guide the decisions that are made about limited resources in a society with changing demographic profiles? Who are the needy in our society? Are resources going to the most vulnerable or needy? Should resources be distributed on the basis of age and/or need? What are the appropriate roles of government, the private sector, and family in responding to individual and family needs? If one agrees that the generations are interdependent, then what views should guide policy development? These questions provide the basis for much discussion.

Debates over the meaning of "generational equity" and what, if anything, ought to be done in response have evolved in this country since 1986. Americans for Generational Equity membership is growing, children and family issues are in the forefront in many state legislatures, the Medicare Catastrophic Act has passed and been partially repealed, and generational impact studies are being produced.

RESEARCH AND EDUCATIONAL CHALLENGES

How the debates and responses are framed will have important implications for individuals and families across the life span. Discussion of the role that researchers and educators are or could be playing to contribute to defining the issue and responses is needed. How do family economists, consumer educators, and other professionals contribute to an understanding and/or misunderstanding of resource allocation and economic well-being concerns? What research and educational projects are addressing generational equity issues either explicitly or implicitly? There are critical needs to further: 1) understand the economic diversity of the elderly and non-elderly populations; 2) determine the implications of changing demographic profiles for families, communities and society; 3) develop measurements of "equity"; and 4) understand the flow of resources to and from consumers and government programs (for all age groups, at points in time as well as over the life cycle).

In addition, educational programming needs to be developed to help defined target audiences understand generational equity issue and concerns. The Minnesota Extension Service offers some examples of how community leaders can be targeted as a key audience to learn about the issue. Educational materials on generational equity as an overall issue and long term care as an intergenerational issue have been developed which clarify the problem, offer varied viewpoints on the issue, and define questions leaders should be asking when considering alternatives.

REFERENCES

Hochschild, J. L. (1981). What's Fair? American Beliefs About Distributive Justice. Cambridge, MA: Harvard University Press.

Kingson, E. (1988). "Generational equity: An unexpected opportunity to broaden the politics of aging," Gerontologist. 28(6): 765-772.

Kingson, E., B. Hirshorn and J. Cornman (1986). Ties That Bind. Cabin John, MD: Seven Locks Press.

Palmer, J., T. Smeeding and B. Doyle (Eds.) (1988). The Vulnerable. Washington, D.C.: The Urban Institute.

Wisensale, S. (1988). "Generational equity and intergenerational policies," Gerontologist. 28(6): 773-778.

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STATE ORIENTED SHELF LABELS: A PRELIMINARY ANALYSIS OF THEIR EFFECTS ON FOOD PURCHASES

David B. Eastwood, Morgan D. Gray, John R. Brooker, and Kent L. Wolfe[1]

Many states are experimenting with marketing programs that promote foods processed within their borders. Research suggests that consumers have interest in knowing the origins of processed foods due to perceptions of higher quality and/or interest in helping local industry. A simple test is described to identify the impacts of shelf labels to identify a state's products. Scan data from supermarkets are used. Results indicate that the labels provide relevant consumer information.

The economics of information provides a consumer perspective for the analysis of marketing and promotion strategies (Eastwood). Theoretically, optimal consumer choice is based upon equating the ratios of the marginal utilities of goods to their prices. One situation in which suboptimal choices can occur is where a consumer is unable to assess marginal utility. An experience good (Nelson) is characterized by the need to consume the item before quality can be assessed, so a consumer has difficulty determining marginal utility prior to purchase. Advertising and other marketing strategies can be helpful in these situations if relevant information is provided.

Foods possess experience properties because consumers must typically eat them in order to assess quality. Traditionally, advertising, product promotions, and labeling provided relevant prepurchase information about ingredients, nutrition, preparation, etc. Recent consumer interest in health concerns and closely associated changes in diets have created opportunities for new types of relevant information to become part of marketing strategies. Success in promoting locally grown produce in supermarkets via freshness and quality has prompted many retailers and State Departments of Agriculture to expand their promotions to include processed foods. Surveys of consumers' perceptions of processed foods indicate preferences for own-state products because of higher quality or interest in helping local industry (e.g., Eastwood, Brooker, and Orr). Thus, easily recognized information about the origin of processed foods may be relevant for consumers in their decision making.

This paper summarizes a preliminary analysis of the impacts of a state-oriented promotion of processed foods. Consideration is given to a point-of-purchase (POP) shelf label to identify selected foods processed within the sate. Reasons for choosing this marketing strategy are that POP materials have been found effective (e.g., Cotton and Babb, Curhan, Frank and Massy, Kumar and Leone, Moriarty), they are an inexpensive way to reach consumers where decisions are made, many states are developing logos for POP displays of processed foods, and it is relatively easy to set up test and control stores. The specific question addressed is does there appear to be an effect of a state's POP label on the sales of selected products promoted in this manner?

Procedure

This state's Department of Agriculture, like those in many other states, promotes foods grown and/or processed within its borders. During July the media and supermarkets are asked to participate in promotional activities. Public service announcements are distributed to radio and television stations. Food editors are encouraged to write about the foods grown or processed within the state. In-store materials are made available to supermarkets. One of these is a shelf label with the state's logo that can be used to identify state processed foods and fresh produce. Present interest focuses on the impacts of this shelf label on the sales of processed foods.

In the test a variety of processed foods was involved to allow for differences in purchase patterns among foods. Seven product groups were selected based upon the foods processed in the state: bacon, baked beans, corn meal, hot dogs, peanut butter, sausage, and shortening. For each group brand name foods processed by a manufacturer located in the state were identified. The state's standard shelf label was displayed beside the price label and directly below the respective product. Several bar codes read by the supermarket scanners were involved. There was one 16 ounce sliced bacon package, seven baked beans varieties and sizes, four corn meal packages, nine hot dog varieties in 16 ounce packages, six varieties and sizes of peanut butter, six 16 and 32 ounce sausage rolls, and four types of shortening.

Weekly scan data from five supermarkets in a metropolitan area within the state were used. All were part of the same chain but were in a variety of locations. The stores comprised a significant segment of the area's food sales. Since all the stores were in the same geographic area, customers shopping at these

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[1] David B. Eastwood, Morgan D. Gray, John R. Brooker, and Kent L. Wolfe. Professor, Computer Analyst, Professor, and Graduate Student, respectively, Department of Agricultural Economics and Rural Sociology. The Tennessee Department of Agriculture Division of Marketing provided financial support for this project.

supermarkets were exposed to the same newspaper, television, and radio promotions of the participating chain, other state promotions, and similar activities of competing stores. The unit of analysis was weekly item movement, or the number of times scanners recorded purchases of specific items. The five supermarkets were separated into three control and two test stores on the basis of whether the shelf labels were present for the selected products.

Scan data from the five stores have been collected since May, 1988. Thus, the weekly sales of each product could be analyzed for a period encompassing two July promotion months. Technical problems prevented the transfer of scan data from the stores to corporate headquarters for some weeks. Thus, there are some weeks with missing data. Rather than estimating the missing values and inserting incorrect values into the historical record, they remained missing values.

Initial interest centered on the patterns of sales for the products over the entire time period. Inspection of the data led to several insights beyond those just mentioned. First, levels of item movement varied by product group. These were caused by differences in the number of products (e.g., only one bar code for bacon and nine codes for hot dogs) and the frequency with which consumers replenish stocks (e.g., corn meal is a product that is used in the home in relatively small amounts so replenishment takes place less frequently leading to lower item movement). Second, the historic record revealed different trends by product group. Third, the timing of peaks and troughs did not correspond across products. Fourth, the timing of cycles for a given product was different for the same month in two years. Fifth, average customer counts in the test stores were always less than those for the control stores. Sixth, the number of state brands relative to close substitutes varied by product. Therefore, the impact of the shelf labels was examined for each product separately.

Item movements for all the bar codes of the shelf labeled products within each group were calculated. These were then averaged across the five stores to obtain data on the seven state products for May 14, 1988 to July 29, 1989. Appendix figures 1-7 are graphs of these average item movements by product. Each is seen to have its own long-run and cyclical behavior. For example, baked beans has a U-shaped pattern. The bottom occurs during the winter months. The two July months are of particular interest because the state promotions occurred during these times. The figures clearly show that item movements for the same product for the two months should not be compared directly. Average levels of item movement are different, as are the timing of the cycles.

A straightforward way to accommodate the trends and cycles was to consider only July for the two years. The ratio of average weekly item movement in the test to control stores was calculated for each POP labeled product. This avoided the influences of the other weeks and allowed an examination of sales during the promotion months for successive years. It also adjusted for the differences in customer counts and time periods. Attention could then focus on the crucial comparisons of item movements in the test stores relative to control stores in July, 1989 versus July, 1988. There was no reason to consider close substitutes because relative prices and other aspects of the competitive environment were identical between the test and control stores. Differences in sales between the two types of stores, then, would be due to differences in customers and the presence/absence of the shelf label. However, there is no evidence that the distribution of customers among supermarkets in the area, let alone in the five stores, changed between years. This suggests that observed differences in item movements are likely due to the shelf label.

Results

If the shelf label had an impact, then July, 1989 relative to July, 1988 item movements ought to be higher in the test stores. This condition turned out to be generally true for the products considered. Appendix figures 8-14 display the July data. The ratios of average test store to average control store item movements in July, 1989 compared to July, 1988 were higher for bacon, baked beans, hot dogs, peanut butter, and sausage. The limited number of observations prevented testing for significant differences. An implication is that this form of POP promotion provides relevant information to food shoppers about the origin of processed foods.

The two exceptions are corn meal and shortening. In these two instances the weekly July ratios for the two years cross. Consequently, there is no clear-cut indication that the shelf label was or was not effective. These products tend to be purchased less frequently than the other five foods, so there are longer consumer stock adjustment periods. Furthermore, corn meal and shortening may have less state recognition by consumers than the other products. An implication is that the length of time required to have an impact varies by product. Foods that have longer stock adjustment periods and less state recognition may need longer promotion periods for the origin message to reach food shoppers.

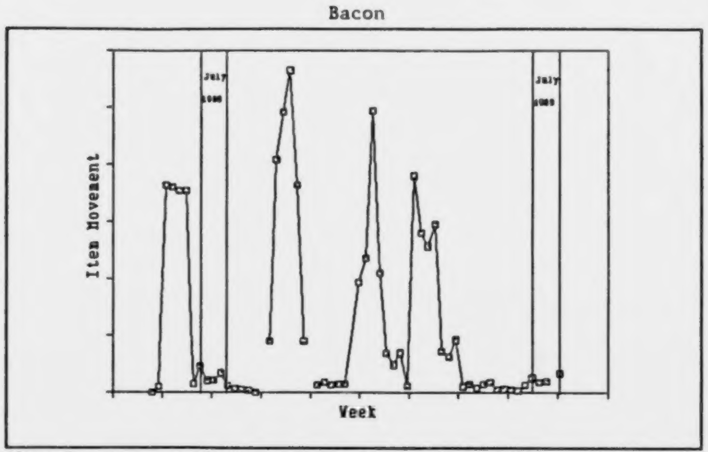

Figure 1. Average weekly item movement of bacon, May 14, 1988 to July 31, 1989. Note: spaces between points denote missing or very erratic data.

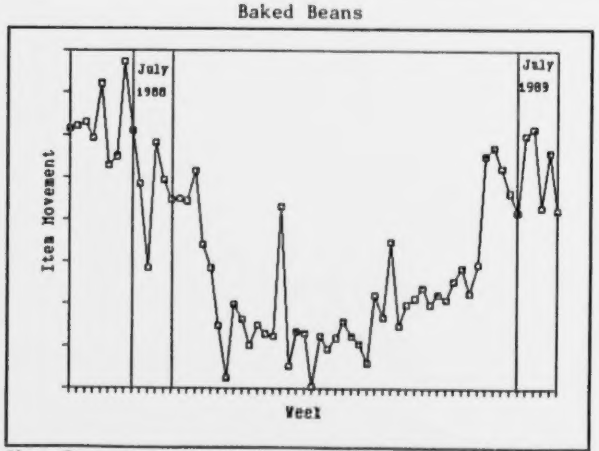

Figure 2. Average weekly item movement of baked beans, May 14, 1988 to July 31, 1989.

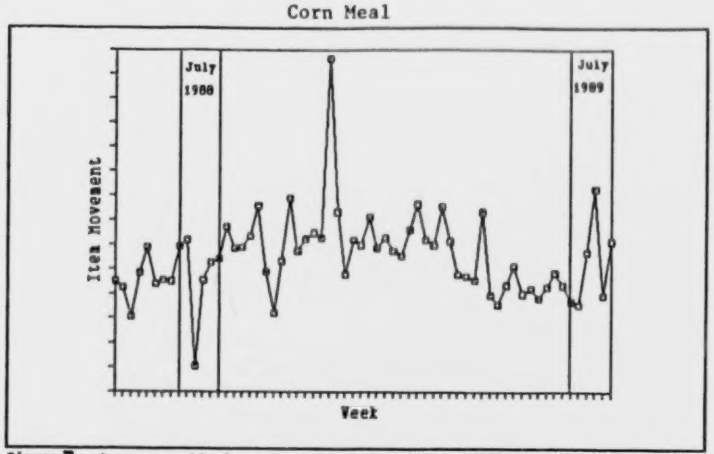

Figure 3. Average weekly item movement of corn meal, May 14, 1988 to July 31, 1989.

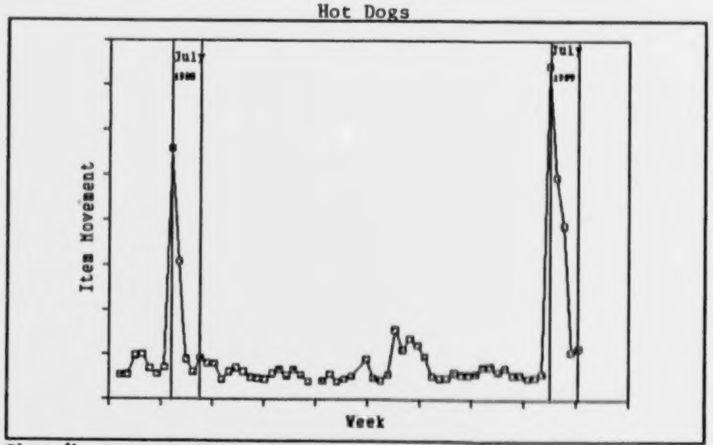

Figure 4. Average weekly item movement of franks, May 14, 1988 to July 31, 1989. Note: spaces between points denote missing or very erratic data.

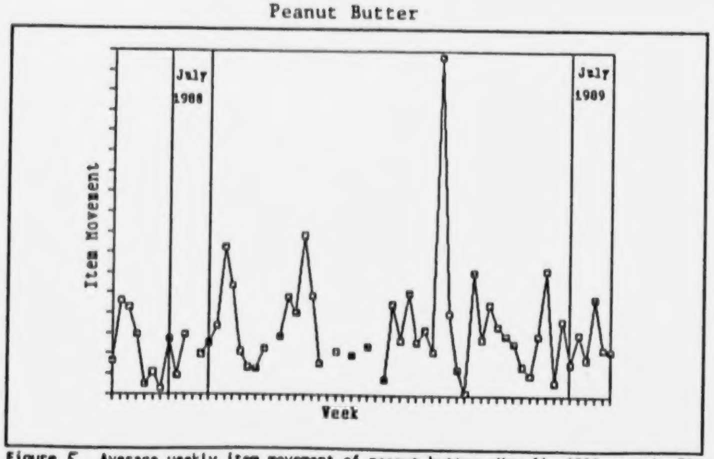

Figure 5 Average weekly item movement of peanut butter, May 14, 1988 to July 31, 1989. Note: spaces between points denote missing or very erratic data.

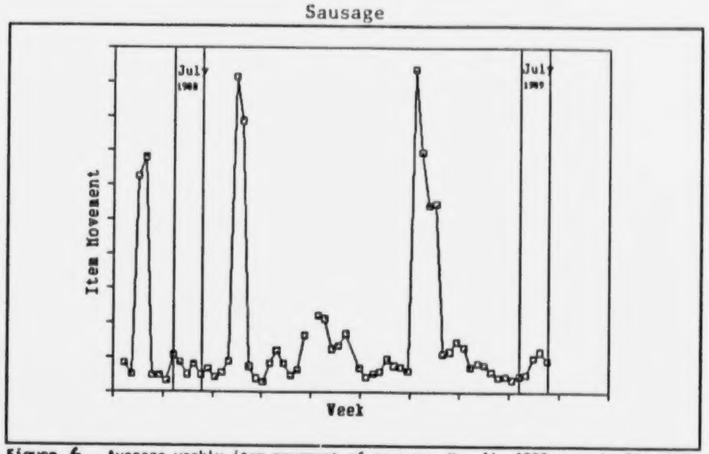

Figure 6 Average weekly item movement of sausage, May 14, 1988 to July 31, 1989. Note: spaces between points denote missing or very erratic data.

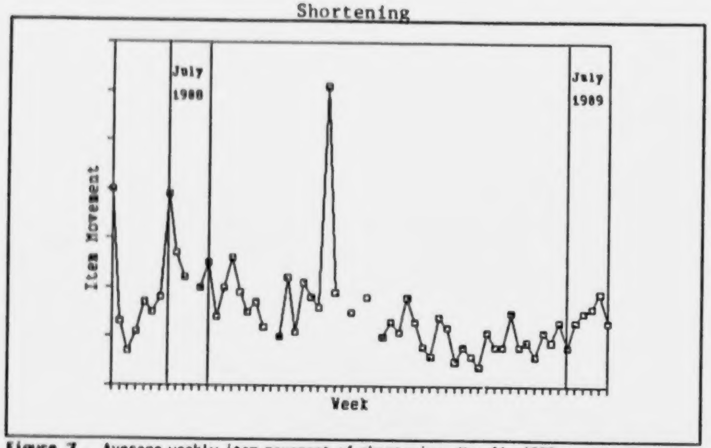

Figure 7. Average weekly item movement of shortening, May 14, 1988 to July 31, 1989. Note: spaces between points denote missing or very erratic data.

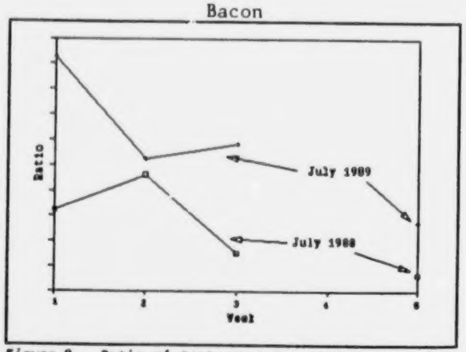

Figure 8. Ratio of test store to control store item movement July, 1988 and July 1989. Note: spaces between points denote missing data.

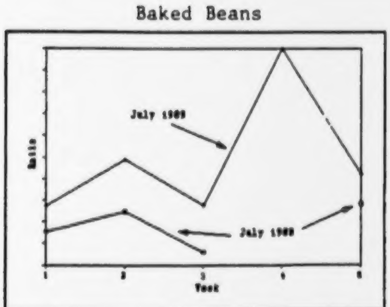

Figure 9. Ratio of test store to control store item movement July, 1988 and July 1989. Note: spaces between points denote missing data.

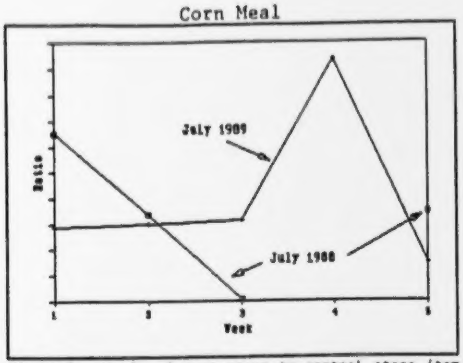

Figure 10 Ratio of test store to control store item movement July, 1988 and July 1989. Note: spaces between points denote missing data.

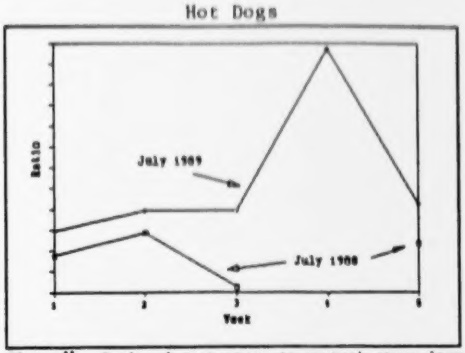

Figure 11. Ratio of test store to control store item movement July, 1988 and July 1989. Note: spaces between points denote missing data.

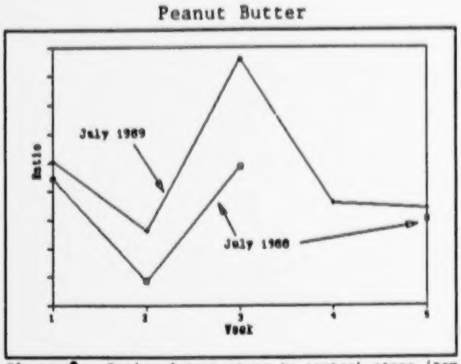

Figure 12 Ratio of test store to control store item movement for July, 1988 and July 1989. Note: spaces between points denote missing data.

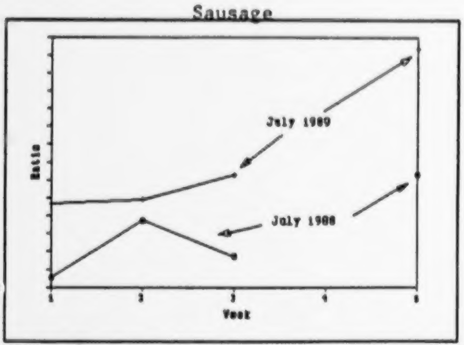

Figure 13 Ratio of test store to control store item movement July, 1988 and July 1989. Note: spaces between points denote missing data.

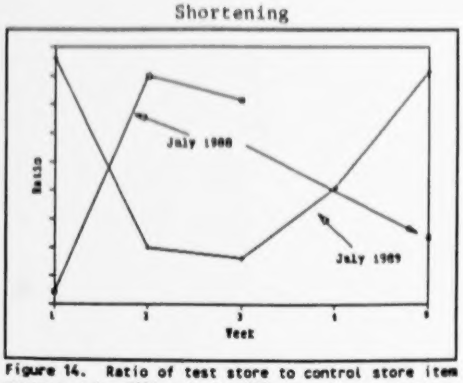

Figure 14. Ratio of test store to control store item movement July, 1988 and July 1989. Note: spaces between points denote missing data.

REFERENCES

Cotton, B. C. and E. M. Babb, "Consumer Response to Promotional Deals," Journal of Marketing, 42(1978):109-13.

Curhan, R. C., "The Effects of Merchandising and Temporary Promotion Activities on Sales of Fresh Fruits and Vegetables in Supermarkets," Journal of Marketing Research, 11(1974):286-94.

Eastwood, D. B. The Economics of Consumer Behavior, Newton, MA: Allyn and Bacon, 1985.

Eastwood, D. B., J. R. Brooker, and R. H. Orr, State Logos for Fresh and Processed Foods: A Case Study of Consumers in Knox County, Tennessee, University of Tennessee Agricultural Experiment Station Bulletin 661, 1988.

Frank, R. E. and W. F. Massy, An Econometric Approach to a Marketing Decision Model, Cambridge, MA: MIT Press, 1971.

Kumar, V. and R. P. Leone, "Measuring the Effect of Retail Store Promotions on Brand and Store Substitution," Journal of Marketing Research, 25(1988):178-85.

Moriarty, M. M. "Retail Promotional Effects on Intra- and Interbrand Sales Performance," Journal of Retailing, 61(1985):27-47.

Nelson, P. "Information and Consumer Behavior," Journal of Political Economy, 78(1970):311-29.

ACCEPTANCE OF PRODUCTS FOR TELEVISION ADVERTISING

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ABSTRACT

Due to the regulatory shifts occurring in the television advertising industry, media guidelines utilized to determine which products are acceptable for broadcast have changed. This study requested from all U.S. commercial broadcast stations, descriptions of the standards and types of products deemed acceptable for airing. The results of this study indicate inconsistency in the advertising guidelines employed and products accepted for broadcast.

Regardless of the directives (or absence) of any code or self-regulation interests, no television station today must accept any commercial advertising it does not wish to carry (Heighton and Cunningham 1984; Parsons, Rotfeld, and Gray 1987). All station managers station managers may review each commercial submission prior to broadcast and decide if he or she wishes to include it in the broadcast schedule. Therefore, any advertiser wishing to reach the audience of a large, influential, or significantly-targeted program or station must meet the station's standards for acceptable advertising in order to reach those audiences.

Although, the ongoing clearance procedures of the three major broadcast networks, including the practices and concerns of a few large stations, advertising agencies and advertisers have been described in detail by several studies (e.g. Best 1985; Kaplan and Houlberg 1988; Sewell and Jennerjahn 1982; Zanot 1985), none have specifically addressed the practices and/or standards applied to a range of "controversial" products.

A need exists to determine the extent of guidelines (or lack thereof) currently applied by United States commercial broadcast stations for "controversial" products. This study reports on the national application of media guidelines utilized by media companies by employing a surrogate measure (i.e., a market-basket of "controversial" products; liquor, feminine hygiene products, abortion services, sexual reference ads, beer or wine).

SELF-REGULATION & MEDIA POWER

Advertising regulation activity, both by government and self-regulation by business, imposes limitations on what, where and how different products can be advertised. Since regulation by peers is easier and often more "painless" than government action (LaBarbera 1980; Stern 1971), business leaders find self-regulation desirable, and it has been noted by many as "effective control," or "the most efficient tool for curbing excesses and illegality in advertising" (Colford 1987a; LaBarbera 1980). However, an inherent limitation on all organization self-regulation codes resides in their inability to impose meaningful sanctions on members. Accordingly, they are dependent on member cooperation which, in turn, often requires the "encouragement" caused by the members' fears of government regulation (Armstrong and Ozanne 1983).

On the other hand, media owners and management are free to require more from advertisers than might be legally requested by government (LaBarbera 1983; Wyckham 1987). Such media power is the major form of advertising regulation in many other countries and (e.g. Neelankavil and Stridsberg 1980; Rijkens and Miracle 1986) descriptions of the clearance process imply it possesses similar ubiquitous potential for consumer protection in the U.S. (e.g. Miracle and Nevett 1987; Linton 1987; Zanot 1985).

There is a history here. Until 1982, the National Association of Broadcasters (NAB) code for good practices was not just another trade code to which members could adhere as they chose (see: Davis 1987; Heighton and Cunningham 1984; Krum and Greenhill 1972; Linton 1967; Maddox and Zanot 1984). While similar to trade association standards for members' ethical practice (as discussed in LaBarbera 1980; 1983), the NAB code influenced business activities beyond those of the member broadcasters. While ostensibly voluntary, carrying the only direct member sanction of withdrawal of permission to display the Seal of Good Practice, the organization actively interpreted the guidelines and determined which commercial submissions would be considered acceptable. The NAB provided an office, staff and budget for screening commercial submissions on behalf of member stations (Heighton and Cunningham 1984). NAB employees interpreted Code guidelines and reviewed commercials for agencies and advertisers prior to submission to stations for possible broadcast.

From the advertiser's point of view, dealing with a single office provided an ease of clearance instead of dealing with every station manager for national advertisers buying time from individual stations (commonly known as "national spot buying"). While fewer than two-thirds of the television stations followed the voluntary code, the Code-abiding stations accounted for (about) 80% of broadcast audiences (Linton 1967; 1987; Maddox and Zanot 1984). For the member stations, the NAB provided resources and staff which they might not otherwise be in a financial position to allocate for clearance decisions. For consumers, the Code strictures forced many advertisers desiring to reach the large audiences of the networks and code members to abide by the NAB Code.

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Advertisers, agencies and even some critics would point to the NAB Code as a strong and effective force on advertising practice. While many scholars would note it to be an ineffective screen in that tasteless and/or deceptive advertisers could always find non-code stations to carry their commercials, faced with the choice of abiding by the Code or incurring the expense and possible public relations headaches of making two sets of ads for Code and non-Code stations, advertisers generally chose the former. For example, the NAB Code restrictions discouraged lingerie manufacturers from using live models in commercials (Sloan 1987). Hard liquor advertisers decided that print media would be more efficient than limited use of broadcasting via the non-code stations, except for ads specially targeted to Spanish speaking people, since Spanish language stations would accept hard liquor ads (Colford 1987b).

However, the Justice Department sued the NAB under the anti-trust laws, claiming that the Code sections recommending limits on numbers of commercials per hour artificially increased the demand for time, limited its supply and, thus, raised its price. As a settlement, the NAB suspended all Code activities in 1982, including procedures to review commercials, procedures which were not part of the original complaint. Currently, although some broadcasters fear renewed FCC regulation might force a return to some type of regulation (Henry 1988), the Code's present authority is that of an influential ghost.

THE CHANGING BROADCASTING LANDSCAPE

When the NAB dropped the Code Authority and its procedures, the three major broadcast networks -- Capital Cities/ABC, CBS and NBC -- presented written codes that they would follow which incorporated many aspects from the NAB code (Maddox and Zanot 1984; Linton 1987). While they often do not agree with each other on actual clearance decisions for individual ads (see Heighton and Cunningham 1984), the written network guidelines have become visible standards for the industry, often carrying an influence akin to that previously held by the NAB (Davis 1987; Henry 1988).

Yet, it would be an error to presume that these guidelines are followed by as many stations as the code. Although case examples provide insight into clearance practices of some stations (e.g. Kaplan and Houlberg 1988; Zanot 1985), they may not provide insight into practices throughout the industry.

Even at the network level there is increasing ambiguity. In 1988, NBC, CBS and ABC all made extensive cuts in their clearance departments (Henry 1988; Gordon 1988), with both CBS and NBC cutting their advertising clearance staffs by 50% over the last three years. At this time, it is uncertain just what impact this will have on actual advertising practice, but, at the very least, it increases the importance of local standards applied by the individual stations and their respective owners. For example, stations might trust some ads in the belief that they had already passed network screening (Hayes and Rotfeld 1989).

All of this seems particularly important when it is placed in the larger context of the business of broadcast communications -- and the resulting broadcast advertising landscape -- being in a state of flux. There has, for example, been a boom in station growth, with several hundred small independent stations going on the air since 1982. Further, the networks have been losing their share of audience as more stations go on the air and other television options such as cable networks and local hook-ups grow. Today, in aggregate, there are more broadcasters including an increase in the number of weak to marginal independents (i.e., non-network affiliate operations) (Channels 1988). Due to this changing broadcast market, agreement on a Code may be much more difficult today. Even it the NAB Code is resurrected, it would find its adherents to be a smaller percentage of the broadcast operations, representing a smaller segment of the daily audiences and not commanding as much power as it did before. This is not because stations desire a code less, rather, their interests, concerns and values have become increasingly varied.

Thus the forces operating on broadcast managers increasingly may become similar to those operating in other media. Rotfeld and Parsons (1989), for example, failed to find any obvious, strong, pattern of formal oversight and control in advertising clearance for magazines, and concluded that magazine clearance, at best, can only be a spotty form of consumer protection.

RESEARCH QUESTIONS & EXPECTATIONS

After screening a commercial submission, media managers may 1) request alterations in commercials due to taste concerns or fit with the audience; or 2) request the advertiser to provide substantiation that claims are true; or 3) reject the commercial as unacceptable subject matter. Of course, some station managers may accept all commercials, while other managers might deem similar commercials unacceptable.

Requests for substantiation can lead to ad rejection if the advertiser is unwilling to adjust the ad or cannot adequately support the claims. However, a television station would have to increase its resource commitment to send ads back for substantiation, in addition to risking the loss of revenue from a lost commercial sale (Hayes and Rotfeld 1989). In a tight market for local advertising dollars, simple economics would discourage many stations from ever questioning submissions. Since managers are often evaluated on the profitability of their station, ad rejection is likely to be even rarer than simple requests for substantiation or revisions to fit station taste concerns.

Desires to enforce strong clearance concerns could logically depend upon a station's market position. In other words, the "larger" a station, the higher its rejection rates. However, print media studies failed to discern any relationship between circulation and various measures of strictness of procedures (Goldstein 1986; Parsons Rotfeld and Gray 1987; Utt and Pasternack 1986). More directly for the concerns herein, television stations'"size" data are not so readily available. A simple assessment of the size of the market-area served by the station would be a grossly inadequate definition. The larger the market area, the more stations it might support, such that every city will contain some small and relatively weak stations. There are also factors of the station's program line-up, hour-to-hour ratings and average advertising time charges which change frequently. In addition, rates are often informal and unpublished and economic income statements are confidential. Overall, past research suggests, a meaningful stable surrogate for audience power or station size has not been readily delineated due to all these inter-related and confused variables.

However, it is easy to assess the station's treatment of various types of products. Stations' willingness to accept ads for certain products indirectly indicates the strictness of the stations clearance procedures. In other words, the number and nature of products rejected could be a surrogate indicator of the nature and direction of a station's consumer protection and advertising self-regulation concerns. Their reported frequency of accepting or rejecting commercials for these "controversial" products could indicate how willing the stations are to use the clearance process for audience protection or to respond to viewer complaints.

The NAB code specifically banned the unlikely advertisers of fortune telling, occultism, astrology, phrenology, palm reading, numerology, mind reading "or subjects of a like nature," plus hard liquor, fireworks and mail order fire arms. Of course, it is unlikely that any station could consider any of these, other than hard liquor, as a potential major source of revenue. But liquor, plus contraceptives, sexual references, feminine hygiene products, beer or wine and abortion services, were all seen as potential problem areas in past code revisions or past research on other media (e.g. Rotfeld and Parsons 1989). To a certain extent, station treatment of these products provide an indication of basic consumer protection concerns. The research question then becomes: how readily will a station reject or question claims (or advertising styles) for these legally acceptable products (i.e., liquor, contraceptives, feminine hygiene, sexual reference products, etc.) that might be a source for consumer harm or audience irritation.

METHOD

A preliminary questionnaire was presented to several television time sales people and station managers. Following its presentation, personal interviews with the same subjects were utilized to revise the pretest questionnaire. The revised questionnaire was then pretested with a different group of television station managers and the results were used to construct the final questionnaire.

Final questionnaires were sent to all 836 commercial television stations' listed in Standard Rate and Data Service (SRDS) for December 1986 excluding satellites, stations that solely rebroadcast the programming and advertising content of another station. A personally signed cover letter and a postage-paid reply envelope were enclosed with the questionnaire. The letter was addressed to the station manager, since prior interviews indicated they were as involved with clearance as they were with all other day-to-day operations of the stations. Follow-up inquiries were sent to nonrespondents three months after the first mailing.

RESULTS

The Respondents

Responses were received from 426 stations (51% response rate). A broad mix of station organizations were represented with 73% of the responses from network owned or affiliated stations and 27% from independent stations. The actual respondents were primarily management (55%), with sales areas coming in a distant second (16%). No other job title was claimed by more than twelve respondents.

The Products

Table 1 presents a listing of products television stations would never accept. Products never accepted ranged from liquor (86%) and x-rated ads (83%) to Beer (2%) and direct marketing (1%).

Substantiation and Rejection of Ad Submissions

Substantiation was requested for an average of 10% of commercials submitted for broadcast, only 3% of ad submissions were ultimately rejected, and there was a strong, positive correlation between commercial substantiation requests and ad rejection ($r=.525$; $p<.01$). Many stations appear to take their advertising clearance responsibilities seriously, even to the point of rejecting ads and losing revenue. However, there is a wide variation in the stations' advertising regulation activities. Some stations requested substantiation of almost all commercial submissions, but six percent of the stations never requesting substantiation and eleven percent of the stations had not rejected any ads over the last six months.

Stations more willing to accept ads for feminine hygiene products, beer, and ads containing sexual references were significantly less likely to either request substantiation or reject ads in general (Table 2). Willingness to accept feminine hygiene ads had the strongest correlations with decreases in requests of substantiation of commercial claims (Spearman corr = -.205, $p<.01$) and rejection rates (Spearman corr = -.208, $p<.01$).

It should be noted that the questionnaires were sent at the very start of the Surgeon General's call for "safe sex" advertising. It was only in the latter half of 1988 that the country and various broadcasters began to see condom advertising as an acceptable tool in the battle against AIDS; many television stations may still be unwilling to accept condom advertisements because they wish to avoid controversy (Christopher 1986; Colford 1987c; Kaplan and Houlberg 1988), but the pressures and resulting changes were revealed by a few written comments. One respondent specifically noted that "the AIDS problem" is prompting a reconsideration of current policy. The President/CEO of a corporate owner of several television stations enclosed a memo on a new corporate "Policy on Condom Advertising." The stations will now accept the product subject to 3 conditions:

"1. The announcements may be broadcast only in late night time periods (11:30 to sign-off in Eastern Time Zone, 10:30 to sign-off in Central and Mountain Time Zones.)

"2. The announcements must meet the station's normal standards of good taste; and

"3. The announcements must relate the use of condoms only to the prevention of disease (AIDS or venereal to the prevention of disease (AIDS or venereal disease) and may not relate the use of condoms to prevention of human reproduction."

While most station audience profiles are not as clearly delineated as they are for magazines, the stations did express awareness for the audiences in different dayparts and for different types of programs. Some products would be accepted or rejected depending on the nature of the predominant audience at the times requested by the advertiser. As the general manager of a network Owned and Operated (O&O) station wrote, "The fact is, there are restrictions on ads during certain times and programs. There is a special sensitivity to children' ads and family viewing times. An ad may be OK to air but only after 10 p.m. or never in kids' programming."

DISCUSSION

With the cessation of NAB Code authority, there is no longer a central office to set guidelines for the larger or more dominant stations. While the trend towards greater fragmentation in all media for deciding what advertising they would accept and how they may best serve their distinctive audiences may be inescapable, this lack of consistent standards for clearance procedures and the noted variance in applications, presents several potential problems for consumers.

Most directly, the clearance process provides television viewers in the United States uneven protection from false, misleading, or tasteless ads, with some stations appearing to have a rigorous clearance process while other stations have haphazard or non-existent clearance procedures. Many stations take their consumer protection responsibilities seriously enough to lose advertising revenue, but others will not reject paid commercial submissions except in the most extreme cases. Some claim not to reject any ads as long as the advertiser has the cash.

While some media companies might be examples of how the clearance process can be strong force of advertising regulation, it would be a gross error to presume that their practices are typical. In fact, some believe that market forces plus self-regulation have virtually eliminated all false and misleading advertising. Yet there remain various incentives for advertisers to "skirt the truth," to try and mislead by statement, implication or omission, or maybe to use ways that they know consumers might misunderstand literally true statements, in the hopes that the actual truth of the matter will never be ascertained (Preston and Richards 1988). For many products, from aspirin and other pain relievers to dog flea shampoos to automobiles, consumers may not be in a position to ascertain the veracity of claims. If these products are actually dangerous or adulterated, or if the claims are simply false, absent regulation, the truth may never be known.

More important, Zanot and Rotfeld (1983) and others studies illustrated and this data support a view that when print media or individual stations are involved, clearance can become a trivial concern for the advertiser. There are so many comparable vehicles available, that if one will not accept a commercial for minor concerns, another outlet with a comparable audience would readily be found without significant impact on media purchase plans. What this most clearly means for consumers is that, in many instances, neither the NAB code nor descriptions of the network procedures can by themselves serve as indicators of how well the clearance process has substituted for government involvement in consumer protection in the areas of advertising regulation. They may only indicate the upper limits of such protection.

TABLE 1

Products Never Accepted by Television Stations
N = 427

Product	Number of Times Mentioned	Percentage of Total Responses
Liquor	368	86.2%
X-Rated/Other Porn	353	82.7%
Abortion	288	67.4%
Astrology	237	55.5%
Contraceptive Devices	216	50.6%
Handguns	211	49.4%
Escort/ Dating Services	172	40.3%
Opinion Ads	36	8.4%
Feminine Hygiene	15	3.5%
Beer or Wine	8	1.9%
Direct Marketing	5	1.2%

TABLE 2

INFLUENCES ON TELEVISION STATIONS' REQUESTS FOR ADVERTISING CLAIM SUBSTANTIATION AND FINAL REJECTION SPEARMAN CORRELATIONS

	Percentage of Commercial Submissions for Which Substantiation is Requested	Percentage of Commercials Rejected
Degree Station Will Accept Ads For:[1]		
Beer or Wine	-.094 (a)	-.166 (b)
Liquor	.073	-.048
Contraceptives	.001	.008
Feminine Hygiene	-2.05 (b)	-.208 (b)
Having Sexual References	-.103 (a)	-.094 (a)

[1] Five point scale: Never Accepts = 1; Always Accepts = 5.

(a) = p. < .05
(b) = p. < .01

REFERENCES

Armstrong, Gary M. and Julie L. Ozanne (1983). "An Evaluation of NAD/NARB Purpose and Performance," Journal of Advertising. 12 (No. 3), 15-26.

Best, Arthur (1985). "Controlling False Advertising: A Comparative Study of Public Regulation, Industry Self-Policing and Private Litigation," Georgia Law Review. 20 (Fall): 1-72.

Channels: The Business of Communications (1988). "Local Television Under Fire." 1989 Field Guide to the Electronic Media. 8 (December): 10-22.

Christopher, Maurine (1986). "Nets Stand Fast on Birth Control Ads," Advertising Age. 57 (November 10): 36.

Colford, Steven W. (1987a). "Four A's Pushes Nets on Screening Ads," Advertising Age. 58 (April 20): 36.

________ (1987b). "Hispanic TV Stations Under Fire," Advertising Age. 58 (October 12): 12.

________ (1987c). "Nets Take Flak on condom Ads," Advertising Age. 58 (February 16): 79.

Davis, L. J. (1987). "Looser, Yes, But Still the Deans of Discipline," Channels: The Business of Communication. 7 (July/August): 32-38.

Goldstein, Tom (1986). A Two-Faced Press. Priority Press Publications.

Gordon, Richard L. (1988). "Networks Hit for Ad Clearance Cuts," Advertising Age. 59 (September 12): 6.

Hayes, Rader and Herbert J. Rotfeld (1989). "Infomercials and Cable Network Programming," Advancing the Consumer Interest. 1 (No. 2), 17-22.

Heighton, Elizabeth J. and Don R. Cunningham (1984). Advertising in the Broadcast and Cable Media, 2nd edition. Wadsworth Publishing Company.

Henry, William A. III (1988). "Network to Censors: Take a Walk," Channels: The Business of Communication. 8 (October): 12-13.

Kaplan, Herb and Rick Houlberg (1988). "Broadcast Condom Advertising, the Public Interest, and Deregulation: A Case Study," paper presented at International Communications Association conference, New Orleans, May 30.

Krum, James R. and Richard H. Greenhill (1972). "The Extent of Industry Self-Regulation Through Trade Association Codes of Ethics," The Anti-Trust Bulletin. 17 (Summer): 379-92.

LaBarbera, Priscilla A. (1980). "Analyzing and Advancing the State of the Art of Advertising Self-Regulation," Journal of Advertising. 9 (No. 4), 27-38.

________ (1983). "The Diffusion of Trade Association Advertising Self-Regulation," Journal of Marketing. 47 (Winter): 58-67.

Linton, Bruce A. (1967). Self-Regulation in Broadcasting. National Association of Broadcasters.

________ (1987). "Self-Regulation in Broadcasting Revisited," Journalism Quarterly. 64 (Summer-Autumn): 483-490.

Maddox, Lynda M. and Eric J. Zanot (1984). "Suspension of the NAB Code and Its Effect on Regulation of Advertising," Journalism Quarterly. 61 (Spring): 125-130, 156.

Miracle, Gordon E. and Terence Nevett (1987). Voluntary Regulation of Advertising: A Comparative Analysis of the United Kingdom and the United States. Heath & Company.

Neelankavil, James P. and Albert B. Stridsberg (1980). Advertising Self-Regulation: A Global Perspective. Hastings House.

Parsons, Patrick R., Herbert J. Rotfeld and Todd Gray (1987). "Magazine Publisher and Advertising Manager Standards for Acceptable Advertising," Current Issues and Research in Advertising. 10: 199-211.

Preston, Ivan L. and Jef I. Richards (1989). "The Costs of Prohibiting Deceptive Advertising--Are

They as Substantial as Economic Analysis Implies?" in Advances in Consumer Research, Vol. XVI, Provo, UT: Association for Consumer Research, pp. 138-142.

Rijkens, Rein and Gordon E. Miracle (1986). European Regulation of Advertising: Supranational Regulation of Advertising in the European Economic Community. Elsevier Science Publishers B.V.

Rotfeld, Herbert J. and Patrick R. Parsons (1989). "Self-Regulation and Magazine Advertising," Journal of Advertising. 18 (No. 4), 33-40.

Sewell, Michael and Mary Lou Jennerjahn (1982). "Advertising Gatekeeping: Clearance of Network Television Commercials," in Studies in Journalism and Mass Communications, review from the Southwest Education Council for Journalism/Mass Communications conference, October 3-4, pp. 20-26.

Sloan, Pat (1987). "Burning Up Over Bras," Advertising Age. 58 (April 27): 75.

Stern, Louis L. (1971). "Consumer Self-Protection Via Self-Regulation," Journal of Marketing. 35 (July): 47-53.

Utt, Sandra H. and Steve Pasternack (1986). "Dailies' Non-Acceptance of Advertising: Rights and Policies," paper presented at annual conference of Association for Education in Journalism and Mass Communications, Norman, Oklahoma (August 3-6).

Wyckham, Robert G. (1987). "Self-Regulation of Sex-Role Stereotyping in Advertising: The Canadian Experience." Journal of Public Policy & Marketing. 6: 76-92.

Zanot, Eric J. (1985). "Unseen But Effective Advertising Regulation: The Clearance Process," Journal of Advertising. 14 (No. 4): 44-51, 59, 68.

________ and Herbert J. Rotfeld (1983). "A Comparison and Contrast of Clearance Procedures in Four Advertising Agencies," Proceedings of the 1983 Convention of the American Academy of Advertising, D.W.Jugenheimer, ed. Lawrence, KS: American Academy of Advertising, pp. 47-51.

VEHICLES FOR REFORM IN THE AUTOMOBILE INSURANCE MARKET

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The rapidly rising cost of auto insurance led to the passage of California's Proposition 103. In addition to drastically rolling back auto insurance premiums, Proposition 103 changed the method of selecting the state insurance commissioner: from appointed by the governor to elected by the people. Controlling for relevant supply and demand factors, this paper examines whether method of commissioner selection and length of commissioner term is associated with lower automobile insurance rates in other states. The study's results indicate that changes in the method by which insurance commissioners are selected is unlikely to stem the tide of rising automobile insurance premiums. More promising for consumers may be policies that directly reduce the frequency and severity of automobile accidents.

INTRODUCTION

The 1988 passage of Proposition 103 in California sent shock waves through the insurance industry. The most visible feature of Proposition 103 was its drastic rollback of auto insurance premiums, but consumer leaders like Ralph Nader stated that Proposition 103's regulatory reforms were even more significant (Harbrecht and Grover 1989). One of these regulatory reforms, the formation of a consumer advocacy corporation for insurance issues, was struck down by the California Supreme Court in 1989. However, a second regulatory reform, the change from an appointed (typically from the ranks of the insurance industry) to an elected state insurance commissioner, will be implemented in November 1990.

Both of Proposition 103's regulatory reforms highlight the desire for improved consumer representation in the insurance industry. A variety of mechanisms have been developed to promote consumer representation in state-regulated industries other than insurance, including the creation of non-profit citizen utility boards and the establishment of governmental consumer counsels. Yet, the insurance industry has remained remarkably impervious to consumer representation efforts. Agents and brokers purport to represent the consuming public, and state insurance commissioners assert that they are protecting consumers, but, as one insurance trade magazine admitted, "the public laughs at both of the claims" (Diamond, 1989).

Research on consumer representation at the state level has focused primarily on public utilities, such as electricity and local telephone companies, and on state-licensed occupations. In contrast, there is virtually no tradition of consumer representation in the insurance industry, and hence no research on how to promote effective consumer representation. Consequently, well-intentioned and time-consuming attempts to improve the quality of consumer representation in the insurance industry have proceeded without a firm conceptual basis. The purpose of this paper is to examine the impact of two variables relevant to consumer representation--method of commissioner selection and length of commissioner term--on state automobile insurance rates, while holding constant other likely influences on these rates.

PREVIOUS RESEARCH

Just as escalating rates for automobile insurance are currently focusing attention on regulatory reforms and consumer representation, increasing rates for electricity and local telephone service had the same effect in the recent past. Of the many possible political influences on prices charged by state-regulated industries, the method of selecting commissioners has received the most research attention. The basic hypothesis being tested in these studies is whether elected commissioners are more responsive to the public and therefore try harder to keep rates as low as possible. The majority of studies fail to support this reasoning. Regarding electricity rates, Crain and McCormick (1978) found that elected commissioners dampen electricity rates, but seven other studies (Brewer and Mann 1989; Costello 1984; Gormley 1983; Hagerman and Ratchford 1978; Harris and Navarro 1983; Pelsoci 1979; Primeaux and Mann 1986) found no relationship between method of commissioner selection and electricity rates (or related dependent measures).[5] Similarly, Mayer, Zick, and Burton (1989) found that local telephone rates were no lower in states with elected commissioners than in states with appointed ones.

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Several other political variables have been tested for their relationship to electricity and local telephone rates. One of these is the length of a commissioner's term of office. As in the case of appointed commissioners, longer term lengths are thought to limit a commissioner's degree of exposure to citizen wrath concerning the prices charged by state-regulated industries.[6] Hagerman and Ratchford (1978) found that longer commissioner terms were indeed associated with higher allowed rates of return for electric companies, but Boyes and McDowell (1989) found that the length of commissioner terms was unrelated to electricity rates. Mayer et al. (1989) reported that longer commissioner terms were related to lower rates for local telephone service.

Ambiguous results also exist with respect to the importance of the number of commissioners and the amount of commission resources. Pelsoci (1979) as well as Boyes and McDowell (1989) found that the greater the number of commissioners, the higher were electricity rates, but Hagerman and Ratchford (1978) found no such relationship. Similarly, larger utility commission staffs (Pelsoci 1979) and larger commission budgets (Boyes and McDowell 1989) were related to lower electricity rates, but another study (Gormley 1983) showed that a more inclusive measure of commission resources (including commissioner salaries, budget size, and data processing capacity) was related to a higher percentage of rate requests granted. Thus, no consistent pattern emerges for any of the political variables that have been analyzed as potential influences on regulatory outcomes.

A possible exception to this pattern of inconclusive results involves the presence or absence of state-supported consumer advocates who intervene in public utility proceedings ("proxy advocates"). Gormley (1983) found the presence of independent consumer counsels or special staffs under the attorney general to be associated with lower electricity rates, and Mayer et al. (1989) reported the same relationship for local telephone rates. However, the applicability of these findings to the case of insurance is limited by the fact that only four states have proxy advocates for insurance matters.

In sum, research on proxy advocates suggests that Proposition 103's attempt to establish a non-governmental corporation to intervene in insurance hearings might have been useful to insurance consumers. In contrast, the research on method of commissioner selection provides less ground for optimism regarding the switch from an appointed to an elected insurance commissioner. Of course, these results are based on data from the electricity and telephone industries, where regulated monopolies are tightly controlled compared to the automobile insurance industry. The research conducted here provides direct information regarding the relationship of two political variables to automobile insurance rates. One variable is the method of commissioner selection, and the other is the length of commissioner terms. Elected commissioners and fixed term lengths are expected to be associated with lower insurance rates.[7]

MODEL

The general model guiding research on the influence of political factors on rates in regulated industries sets prices as a function of three types of conditions: (1) supply, (2) demand, and (3) political (usually, regulatory). In this framework, the supply and demand conditions are treated as control variables, and the research focus is on the political variables. The model presented below takes this approach.

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[5] In an additional study, Boyes and McDowell (1989) argue that elected vs. appointed is not as relevant as how election or appointment occurs. Specifically, statewide elections may be similar to gubernatorial appointment without legislative confirmations because both insulate commissioners from small, clearly defined constituencies. Conversely, district election of commissioners is similar to appointment by the governor with legislative confirmation to the extent that the governor is accountable to individual legislators and their districts. The argument made by Boyes and McDowell is supported by their empirical analysis. Method of commissioner selection (appointed vs. elected) is unrelated to electricity rates unless an additional variable is included. This variable measures the size and distance of the voter/consumer constituency. It takes on the value of one only if commissioners are elected at a statewide level. All other methods of selection (local election and all forms of appointed) are coded as zero. By including the latter variable, the coefficient on the elected vs. appointed variable only captures the effect of the greater accountability of elected commissioners, an effect that is masked when one combines statewide and local election.

[6] This view of commissioners as striving to maximize their own freedom of action is consistent with the view of regulation expounded by Stigler (1971), Peltzman (1976), and more recently Evans and Garber (1988).

[7] Other political variables that have been used in previous research are not relevant in the case of automobile insurance. Specifically, there is virtually no state-by-state variation in the presence/absence of proxy advocates or the number of insurance commissioners.

The Dependent Measure

A number of outcomes measures could be used when studying the influence of the method of commissioner selection and length of commissioner terms on the welfare of auto insurance consumers. Premium prices are important to consumers, but so are various aspects of service quality, for example, the speed and courteousness of claims processing. In addition, a number of units of analysis are possible. Rates may be measured at the level of individual firms or aggregated across firms in a given geographical area.

In the empirical analysis that follows, the dependent variable is the average annual private passenger automobile insurance premium,[8] and the unit of analysis is each state in the United States. Data regarding average automobile premiums by state are compiled on an annual basis by A. M. Best Company. To obtain this average, total private passenger auto premiums are divided by a state's number of registered vehicles.[9] The most recent data are for the year 1987 and are used in this analysis. Measures of the independent variables are based on 1985 and 1986 data to reflect the time order implied by the model.

Supply Factors

The costs of insuring motorists is highly dependent on the frequency of accidents and the costs of accidents. The former is a function of a number of factors, including characteristics of the driver (e.g., age) and the driver's environment (e.g, road congestion, weather conditions). The latter is largely a function of the costs of medical care, legal services, and automobile repairs (Masterson 1989; Snyder 1989).

The death rate per 100,000,000 vehicle miles driven in a state during 1985 serves as a summary measure of the frequency of accidents (assuming that nonfatal accidents are roughly proportional to fatal ones across states). It is the most straightforward measure of risk exposure from an epidemiological and actuarial point of view. The death rate reflects the risk per unit of driving activity and, as a result, it incorporates such factors as alcohol consumption, seat belt usage, the age distribution of a state's population, its road quality and congestion, and its weather conditions.

The costs associated with accidents are proxied in this analysis by the average hospital charge per patient day in 1986, based on data compiled by EQUICOR (1987). Data on comparative legal costs among states are not available, although one might argue that there is a rough correlation across states between the costs of professional services such as litigation and medical care. Nor are there state-level data on the cost of car repair services. However, since car repair services are generally more expensive in urban areas than rural ones, a state's degree of urbanicity might approximate comparative repair costs. In this study, states are compared in terms of the percentage of their population that lived in urban areas as of the most recent U.S. Census in 1980.

Automobile insurance companies typically offer multi-car discounts. This implies that there are economies of scale in the selling of car insurance to households. Accordingly, a state's average automobile premiums per car (the dependent variable in this analysis) should reflect the average number of cars insured on a given policy. In this analysis, the likelihood of multi-car discounts is measured by a state's number of registered automobiles divided by the number of licenses in force, both as of 1986. All things being equal, there should be more multi-car discounts in a state where there are more registered vehicles per driver's license compared to a state where there are fewer registered vehicles per license.

A final supply factor involves no-fault insurance. Hailed by many as the key to reducing the costs associated with automobile accidents, many states have enacted no-fault statutes, although of varying intensity. Some observers contend that only three states (New York, Michigan, and Florida) have "true" no-fault systems, but an additional fourteen states had some form of no-fault insurance in place as of 1985. Because it is not possible to include a variable based on only three of fifty states, for the purposes of this analysis, all seventeen no-fault states are combined and compared to all other states.

Demand Factors

The demand for automobile insurance is related to market forces (i.e., desire and ability of consumers to pay for it) plus government requirements. Higher income people will own more expensive cars than lower income people. In addition, they will view it to be more advantageous to protect their assets in case of an auto accident. Hence, by including a state's per capita income in the model (U.S. Bureau of the Census 1987), both of these demand factors should be captured.

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[8] Lower rates for automobile insurance may not necessarily be in the long run best interests of consumers. It is possible, as many insurance firms asserted after the passage of Proposition of 103, that excessively low rates drive firms from the market, resulting in less competition and, eventually, higher rates and/or lower service quality. Until this outcome is documented, however, it seems reasonable to assume that lower insurance rates are better for consumers than higher ones. Only longitudinal studies focusing on changes in the both the quality and quantity of automobile insurance can resolve this issue.

[9] The resulting averages are potentially skewed by the unknown number of registered but uninsured vehicles in a state. Some states rely on a "security" system whereby, following an accident, each driver/owner of the vehicles involved must show ability to pay damages which may be charged in subsequent legal actions. Moreover, some automobiles are operated without insurance even when insurance is compulsory in a state.

States also impose a variety of requirements that may affect the amount of automobile insurance that a consumer purchases. Some states mandate automobile insurance coverage, while others have financial responsibility laws whereby persons involved in an automobile accident must furnish proof of their ability to pay for any damages arising from the accident. Every state has either a financial responsibility law or a compulsory insurance law; some states have both. In practice, it is doubtful that these states differ in terms of the degree to which they encourage the purchase of automobile insurance since the most common way to fulfill a financial responsibility requirement is to buy automobile insurance.

Perhaps more important than financial responsibility or compulsory insurance laws are state differences in the minimum amount of coverage stipulated by these laws. The minimum amounts have three liability components: (1) individual bodily injury, (2) total bodily injury, and (3) property. As in the case of insurance/financial responsibility requirements, these minimum amounts do not serve as binding constraints upon the majority of consumers; they would normally want even more insurance. Nevertheless, the demand for automobile insurance in a given state may be influenced somewhat by its minimum liability requirements. For the purposes of the empirical work below, the three components of minimum liability are summed. In 1985, for example, Wyoming had limits of 10/20/5, equalling a total of 35. In contrast, neighboring Colorado had limits of 25/50/15, for a total of 90.

A final state-imposed requirement that can affect the demand for automobile insurance is mandated coverage for uninsured drivers. As of 1986, six states had such requirements. A dummy variable measuring the presence or absence of this requirement is included in the analysis.

Political Factors

The main focus of this research is on the association of two political variables with automobile insurance rates. One of these variables is the method of selecting commissioners: elected vs. appointed. Elected commissioners are hypothesized to generate lower rates than appointed ones because elected commissioners are thought to be more responsive to public sentiment than appointed ones. In point of fact, there are several variations in the way in which insurance commissioners are appointed. Most of the appointments are made by governors, but some are made by agency heads or by boards. Adding to the diversity, some appointments require legislative confirmation while other do not. In the analysis described below, method of commissioner selection is simply divided between the 11 states that had elected commissioners as of 1986 and the 39 states that had any type of appointed commissioner.

A commissioner's term of service is also hypothesized to affect auto insurance rates. All elected commissioners have fixed terms, but appointed commissioners can have fixed terms or indefinite ones. Indefinite terms are expected to insulate commissioners from consumer dissatisfaction over high rates relative to fixed terms. The measurement of term length is relatively straightforward and is taken from information found in The Directory of State Insurance Departments (1988).

Method of commissioner selection and term length are captured together by two dummy variables. The first takes on value of "1" if the insurance commissioner is elected. The second dummy variable has a value of "1" if the commissioner is appointed to a fixed term. The omitted category in both cases consists of commissioners appointed for an indefinite term.

THE RESULTS

Descriptive statistics for all of the variables used in the analysis appear in Table 1. According to the information presented in Table 1, the 1987 average insurance premium per registered automobile was $456 across all 50 states. There was substantial variation in the premium with a reported low of $256 (Iowa) and a high of $656 (Massachusetts). An initial examination of the differences by commissioner type reveals that the mean insurance premium in states where the insurance commissioner had an indefinite appointment was $481, while in states where the commissioner was appointed for a fixed term the mean rate was $454. As consumer advocates would predict, the lowest premiums were found in states with elected insurance commissioners. These states had an average premium of only $422 in 1987. While it is tempting to conclude from these figures that elected insurance commissioners take actions to keep automobile insurance premiums low, a closer examination using analysis of variance reveals no significant difference in insurance premiums across the three commissioner types (F = 1.2).

Table 1. Descriptive Statistics

Variable	Definition	Mean	Standard Deviation
AVERATE	average 1987 annual automobile insurance premium per registered car ($)	456	98.9
DEATHMIL	death rate per 100,000 vehicle miles driven in 1985	2.58	.547
COSTDAY	average patient charge per day in the hospital in 1986 ($)	678	146
URBAN	percentage of the state that is urban	67.5	14.1
RAL	average number of registered automobiles per registered driver	.842	.104
NOFAULT	dummy variable; 1 = no-fault insurance system, 0 = otherwise	.340	.479
INCOME	per capita income in 1986 ($)	13870	2205
MINIMUM	minimum amount of insurance required in 1986 ($1,000's)	67.0	19.9
UNINSURED	dummy variable; 1 = mandated uninsured motorist coverage, 0 = otherwise	.120	.328
ELECTED[a]	dummy variable; 1 = insurance commissioner is elected for a fixed term, 0 = otherwise	.220	.418
FIXEDAPT[a]	dummy variable; 1 = insurance commissioner is appointed for a fixed term, 0 = otherwise	.220	.418

N = 50

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[a] The omitted category in this series of dummy variables is those states where the insurance commissioner is appointed for an indefinite period of time.

To examine the role of the commissioner type within the context of the automobile insurance market, we estimated a multiple regression equation. Specifically, the goal is to identify if commissioner type affects average state automobile insurance premiums once the state-specific demand and supply characteristics (described earlier) are held constant. The parameter estimates for this regression equation appear in Table 2.

Table 2. Parameter Estimates for the Regression Equation with Average Annual Insurance Premium per Registered Automobile (AVERATE) as the Dependent Variable (t-statistics in parentheses)

Indenpendent Variables	Estimated Coefficients
CONSTANT	147 (1.09)
DEATHMIL	44.2 (2.09)**
COSTDAY	.0561 (.753)
URBAN	.930 (.979)
RAL	-393 (-3.96)**
NOFAULT	35.9 (1.51)
INCOME	.0319 (5.12)**
MINIMUM	-.325 (-.665)
UNINSURED	-5.96 (-.207)
ELECTED	-15.2 (-.578)
FIXEDAPT	-5.80 (-.263)

$\bar{R}^2 = .577$
F = 7.70**

** significant at the .05 level.

The overall performance of the multiple regression equation as measured by the F-statistic indicates that the equation is statistically significant ($p<.05$). Several of the supply and demand variables contribute to the equation's performance. On the supply side, both the death rate per 100,000 vehicle miles driven (DEATHMIL) and the number of registered automobiles per licensed driver (RAL) have statistically significant coefficients associated with them. For every one percent increase in the death rate in a state, average automobile insurance premiums rise by $44.20, holding other factors constant. Conversely, if the ratio of registered automobiles to licensed drivers in a state increases by one, automobile insurance premiums decline by $393, ceteris paribus. Both of these coefficients are consistent with their hypothesized relationships to automobile insurance rates.

Among the demand variables, only the state's per capita income (INCOME) is statistically significant. The estimated coefficient indicates that for every $1,000 increase in per capita income, insurance premiums rise by $31.90, holding other factors constant. This significant relationship may reflect several income-related considerations that alter the demand for automobile insurance. An increase in income may lead consumers to (1) engage in greater risk avoidance, (2) accumulate more assets that must be protected, and/or (3) purchase more expensive automobiles that require greater amounts of insurance. Unfortunately, it is impossible to identify the relative strengths of these considerations in the current analysis.

The equation shows no support for the hypothesis that the political environment, as measured by insurance commissioner type, affects automobile insurance premiums. The estimated coefficients associated with the two dummy variables, ELECTED and FIXEDAPT, are both small and statistically insignificant. It would appear that method of commissioner selection has little bearing on automobile insurance premiums, ceteris paribus. This finding is supported by past studies that have examined the role of commissioner selection in other publicly regulated industries such as electricity and telephone service.

DISCUSSION AND CONCLUSIONS

This investigation of the benefits of regulatory reform for consumers has focused on how method of state insurance commissioner selection affects automobile insurance premiums. Before trying to draw any implications for consumer policy, this study's limitations should be recognized. First, altering commissioner selection methods and term length are only two means by which regulatory reform might be achieved. The establishment of either state-funded insurance consumer counsels or consumer-funded citizen insurance boards may be more effective in representing consumer interests. In addition, consumer advocates have long called for the repeal of the McCarran-Ferguson Act under which insurance companies are granted immunity from federal antitrust laws when they collaborate in setting state insurance rates.

A second limitation concerns the outcome measure used in this study--average automobile insurance premiums for private vehicles. While premiums are obviously important, there are other aspects of insurance company behavior that are also important to consumers. In particular, consumers want to be sure that they will receive coverage for which they have paid. Some state commissioners may vigorously prosecute insurance companies that engage in "bad faith" actions (i.e., deny or delay legitimate claims for coverage), while other commissioners may set a climate in which bad faith actions go unpunished. Furthermore, commissioners may have more of an impact on the distribution of rates among insurance consumers than on the overall level of rates. For example, elected commissioners may favor urban consumers at the expense of rural consumers. In short, a full understanding of the relationship between regulatory policies and consumer welfare in the automobile insurance market requires outcome measures beyond the one used in this study, namely, average automobile insurance premiums.

Third, a host of supply and demand factors could conceivably affect insurance rates in a given state. This study included only some of these potential influences. In particular, the death rate per mile driven was used to capture an array of factors that influence the likelihood of accidents in a given state. Data exist for some of these factors (e.g., presence or absence of mandatory seat belt use laws) but not for others (e.g., amount, type, and location of alcohol consumption). Future studies might attempt to better specify the role of supply and demand variables in the determination of state-level differences in automobile insurance premiums. Nevertheless, the adjusted R^2 of the equation used in this study is moderately high (.577), one indication that many of the relevant supply and demand factors were incorporated.

A final and major limitation of the present study involves its use of a cross-sectional research design. Not only does the examination of insurance rates in a given year limit the number of variables that can be included in the analysis (due to degrees of freedom issues), but the cross-sectional design raises questions of causality. In particular, had we found that rates were higher in states with elected commissioners, one might ask whether elected commissioners "go easy" on insurance companies (perhaps in the hopes of obtaining campaign contributions) or whether states with high rates shift to an elected commissioner as a means of lowering rates in the long run. Accordingly, one might examine rates in a given state before and after changes in the method of commissioner selection. However, such changes have historically been rare and occur for a variety of reasons, and one is also left with the problem of controlling for all other potential longitudinal influences on insurance rates.

Despite the limitations of the study reported here, one may venture a number of policy implications. Combined with the findings of previous studies on the correlates of different methods of commissioner selection, it appears doubtful that the shift from an appointed to an elected insurance commissioner will yield any noticeable improvements for consumers, at least not in their premiums. Either different regulatory reforms or policies that directly influence supply and demand conditions are needed.

Automobile insurers have declared their common interests with consumers with regard to reducing the costs of insurance (Snyder 1989), and organizations have been formed to explore common ground (e.g., the Coalition for Consumer Health and Safety; the Consumer Insurance Interest Group). In particular, insurers believe that consumers will be well served by policies that reduce the costs of litigation (especially liability reform), medical services, and automobile repair. In this regard, it is interesting that two measures included in this study were unrelated to state differences in automobile insurance premiums. One was the cost per day for hospitalization in a given state. The other measure was a state's percentage of urban residents, used as a proxy of automobile repair costs and based on the assumption that repair costs are higher in urban areas. It may be that these measures are too crude, especially the measure of urbanicity, but the absence of significant coefficients heightens the importance of determining the degree to which various factors affect the costs to insurers and, hence, should be of concern to consumers interested in reducing premiums.

Another noteworthy finding was the presence or absence of no-fault insurance laws had no bearing on state differences in premiums. As noted above, the dummy variable for the no-fault insurance combines three strong no-fault states with fourteen weak ones; thus the impact of the three strong laws might have been buried. Moreover, the value of strong no-fault laws may lie less in their ability to reduce premium costs as in their ability to provide generous benefits in a timely fashion (Hunter, 1990). Finally, the non-relationship between no-fault laws and premiums might be attributable to the cross-sectional nature of the data used in this study. To the extent that no-fault laws are passed in reaction to high rates, it may take several years before any premium-reducing effects of these laws are visible.

On the demand side, it is noteworthy that state requirements regarding the purchase of insurance had no discernible relationship to premiums. This finding suggests that state requirements do not serve as binding constraints on the decisions of most consumers. It also raises the question of whether the benefits of such requirements are outweighed by the costs to states of administering them.

In conclusion, the ultimate question for automobile insurance consumers is what changes in regulatory, supply, and demand factors will improve their welfare. Based on this exploratory study, changes focusing on the state insurance commissioner (method of selection and term length) hold little prospect of making consumers better off. Other regulatory reforms may hold more promise. For the moment, the most effective and feasible avenues to pursue involve identifying factors that contribute to the death rate per mile driven in a state. There are many potential cost factors, but they are not necessarily those which have been targeted by the insurance industry. For example, the main villains according to the insurance industry are liability laws that supposedly encourage frivolous lawsuits and skyrocketing medical costs. It may be, however, that actions to encourage seat belt usage and discourage alcohol consumption may be more effective in reducing accident and fatality rates. In any event, both consumerists and industry representatives have broken from the gate in arguing for their pet reforms; research on which reforms actually improve consumer welfare needs to catch up with them.

REFERENCES

Boyes, William J. and John M. McDowell (1989), "The Selection of Public Utility Commissioners: A Reexamination of the Importance of Institutional Setting," Public Choice, 61 (April): 1-13.

Brewer, H.L. and Patrick C. Mann (1989), "Regulator Selection and Financial Performance for Public Utilities," Energy Economics, 11 (January): 39-45.

Costello, Kenneth W. (1984), "Electing Regulators: The Case of Public Utility Commissioners," Yale Journal of Regulation, 2: 83-105.

Crain, W. and R. McCormick (1978), "Regulators as an Interest Group," University of Rochester, Working Paper Series No. 8004.

Diamond, Joseph S. (1989), "Don't Knock the Consumerists," National Underwriter L&H/FS Ed., July 3, p.12.

Directory of State Insurance Departments (1988). Des Plaines, Illinois: National Association of Independent Insurers.

EQUICOR (1987). Cited in Medical Benefits: The Medical-Economic Digest, January 30, p.4.

Evans, Lewis and Steven Garber (1988), "Public Utility Regulators are Only Human: A Positive Theory of Rational Constraints," American Economic Review, 78 (June): 444-62.

Gormley, William T., Jr. (1983), The Politics of Public Utility Regulation, Pittsburgh, PA: University of Pittsburgh Press.

Hagerman, Robert L. and Brian T. Ratchford (1978), "Some Determinants of Allowed Rates of Return on Equity to Electric Utilities," Bell Journal of Economics, 9 (Spring): 46-55.

Harbrecht, Douglas A. and Ronald Grover (1989), "The Second Coming of Ralph Nader," Business Week, March 6, p. 28.

Harris, Malcolm C. and Peter Navarro (1983), "Does Electing Public Utility Commissioners Bring Lower Electric Rates?" Public Utilities Fortnightly, 112 (September 1): 23-27.

Hunter, J. Robert, Jr. (1990). Presentation on "Grassroots Auto Insurance Reform Initiatives," Consumer Federation of American Consumer Assembly, Washington, D.C., March 15th.

Insurance Information Institute (1984). *Insurance Facts. 1984-85 Property/Casualty Fact Book*. New York: Insurance Information Institute.

Masterson, Norton E. (1989). "Economic Factors in Property/Casualty Insurance Claim Costs," *Best's Review--Property and Casualty*, 90 (June): 74-75.

Mayer, Robert N., Cathleen D. Zick, and John R. Burton (1989), "Consumer Representation and Local Telephone Rates, " *Journal of Consumer Affairs*, 23 (Winter): 267-84.

Pelsoci, Thomas M. (1979), "Organizational Correlates of Utility Rates," in *Energy and Environmental Issues*, edited by Michael Steinman, 101-115, Lexington, MA: Lexington Books.

Peltzman, Sam (1976), "Toward a More General Theory of Regulation," *Journal of Law and Economics*, 19 (August): 211-40.

Primeaux, Walter J. and Patrick C. Mann (1986), "Regulator Selection Methods and Electricity Prices," *Land Economics*, 62 (February): 1-13.

Snyder, David F. (1989), "Statement on Automobile Insurance," in Mary Carsky, ed., *Proceedings of the 35th Annual Conference*. Columbia, MO: American Council on Consumer Interests, pp.372-8.

Stigler, George J. (1971), "The Theory of Economic Regulation," *Bell Journal of Economics*, 2 (Fall): 65-81.

U.S. Bureau of the Census (1986), *Statistical Abstract of the United States: 1987*, 107th edition, Washington, D.C.: U.S. Government Printing Office.

THE PUBLIC AND PRIVATE REGULATORY ENVIRONMENT: DISCUSSION

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This discussion pertains to the following referred research papers: Eastwood, Gray, Brooks, & Wolf, "State Oriented Shelf Labels: A Preliminary Analysis of their Effects on Food Purchases;" Rotfeld, Abernathy & Butler, "Acceptance of Products for Television Advertising;" and Mayer, Zick & Burton, "Vehicles for Reform in the Automobile Insurance Market."

These papers have all undergone a rigorous referred review process. Additionally, I'm sure that those of you who have concerns or questions about the more technical aspects of these research papers will air them during the question period or in private discussions with the authors. What I would like to do is subject these papers to the reality, or practicality, test. One of the main purposes of conducting consumer research is to improve actual consumer welfare in the market. I would like to put myself in the role of a decisionmaker, perhaps with a state department of agriculture in the case of the first paper and perhaps with a consumer citizen action group in the case of the second and third papers, reading these research reports before making some plans for action. What do these papers tell me that I can use for the benefit of consumers? What conclusions or results would I be unsure about? What do they leave me wanting to know more about?

The paper by Eastwood and others addresses whether there appears to be an effect of a state's point of purchase label on the supermarket sales of selected processed foods manufactured within the state. The authors have devised a relatively simple method for arriving at some preliminary conclusions; the main conclusion being "yes". The authors compared item movements of the selected products in the test stores relative to the control stores in July 1989 versus July, 1988, noting that if the movements were higher in 1989 in the test stores, then shelf label had an impact. The expected pattern was mostly found, but was it due solely to the presence of the shelf label? The paper does not fully convince that the presence of the shelf label was the prime determinate of consumers buying processed food manufactured in the state.

As a decision-maker, I would be concerned with the authors' contention that the crucial comparison is between item movement during the two Julys. It would seem that to have a fair test of the label's effectiveness, the crucial comparison would be between item movement in any periods of time, excluding July. July is the "promotion" month, in which the consumer is subjected to advertising, media stories, etc. extolling the virtues of in state foods. It might be that item movement is higher in the test stores during July in general because the consumer has many messages urging them to buy in-state and thus are particularly sensitive to the labels. Since we don't have any examples of the promotions, it is not unlikely to assume that many of them instruct "look for the label!" However, are consumers still sensitive to buying in-state when the hoopla no longer is present? Do the same ratios hold (and what is the scale)? Was there more publicity in July 1989 than in the preceding year? Would that account for the greater item movements in 89? Did the shelf labels make a difference at all! We simply don't have enough information provided in this paper to make an informed judgement as to the accuracy of the authors' stated implication that point of purchase labels are predominately responsible for increasing consumer purchases of in state manufactured foods. If, in fact, item movements are higher in the test stores in the absence of media campaigns and other reminders, then it might very well be that consumers are paying attention to the labels and that labels may be positively affecting consumer purchases.

It seems to me that the really interesting market question is what is the longer-run economic impact of the point of purchase labels? For the program to be viable, one needs to demonstrate a sustainable effect of the labels alone in the absence of a media campaign which is, after all of short life and not guaranteed to occur every year. If the labels do not have any permanent effect in the absence of an accompanying media blitz, one is looking at a one month increase in sales. What is that worth? In the absence of any explicit incentives to stores to continue the POP labels what is the practicality of sustaining these program efforts beyond the one month? It might be that addressing these questions is beyond the scope and purpose of this paper, but it should be the question that drives future research efforts in this area.

These comments should be taken in the spirit of this being a preliminary study, so perhaps it is unfair to criticize what might yet be forthcoming. So let me make one more simple suggestion as to what might have been done with the data the authors have available. The authors demonstrate that the ratios of average test store to average control store item movements in July, 1989 compared to July 1988 were higher for 5 food groups, but the limited number of observations prevented testing for significant differences. The authors do not state what types of statistical testing might have been attempted. There seems no doubt that t-tests or regressions are out of the question. However, it does seem as if

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there are enough observations (assuming independence which might not be a safe assumption) to perform a binomial test of the null hypothesis that the ratio of test to control stores in '89 is less or no greater than the ratio of test to control stores in '88. That would still not allow us to draw the conclusion that the labels alone are affecting consumers' purchase decisions, but it probably would allow us to more reliably examine whether the entire program, presently consisting of both labels and media, is having at least a significant short-term effect, and whether further investigation is warranted.

Rotfeld and his co-authors investigated "how readily will a television station reject or question claims (or advertising styles) for legally accepted products (those being liquor, beer or wine, contraceptives, feminine hygiene, and products having sexual reference) that might be a source for consumer harm or audience irritation." The assumption is made that the number and nature of products rejected could indicate the extent to which a station engages in consumer protection. Logically, the more a station asks for further substantiation of product claims and/or the more frequently it rejects an advertisement, and therefore loses a source of revenue dollars, the more it willingly engages in self-regulatory consumer protection measures. Further, the rejection could be based upon either unsubstantiated product claims that could be considered misleading or fraudulent, and/or tastelessness (at least in the eyes of the station).

The main problem I have comes from what I perceive to be a mixing of apples and oranges. I understand why stations might require substantiation of product claims and why this might be seen as a consumer protection measure. I do not understand why the refusal to run ads for the above mentioned products because they are considered tasteless or potentially offensive to some viewers is also considered a measure of consumer protection, rather than a form of censorship. I think it would be useful to at least make brief mention of the theoretical underpinnings of advertising regulation, and advertising regulation as practiced by the Federal Trade Commission before the question of what constitutes consumer protection under a voluntary self-regulatory system can be addressed.

Further, I truly don't understand the relevance of the correlation matrix presented. What does it really mean if there is a statistically significant moderate negative correlation between willingness to accept feminine hygiene ads and percentage of substantiation requests made by the station for all commercial submissions? Does it mean that stations willing to accept feminine hygiene ads are so unconcerned with the sensibilities and welfare of their viewing public that they think nothing of airing potentially misleading or fradulent commercial claims? Or does it mean they feel that their viewers have the right to uncensored viewing and can make their own decisions as to what to pay attention? What does it mean that there is a positive but almost nonexistent relationship between the willingness to accept contraception ads and the percentage of commercial submissions for which substantiated is requested? The prime question becomes are there any common characteristics among these legal but potentially irritating products that might help explain why some have negative correlations and some positive? I don't know, and the paper doesn't inform me. Missing is the discussion of why the test should be run in the first place and what the results really mean as opposed to what they are.

In spite of this I want to emphasize that I think this paper contains many valuable ideas. If anything, I think the paper does too much. I think there's a paper here analyzing self-regulating behavior in regard to products and/or commercials of questionable taste and a paper analyzing industry behaviors regarding commercials of questionable claims. I would like to read the author's analysis of both issues, but in separate frameworks delineating what is in the consumers' best interests as defined by the media that control what we see, hear and sometimes read.

Mayer, Zick and Burton addressed a very contemporary issue, given the recent referendum in California and similar concerns that exist in other states. As a decision-maker, I would like this paper very much. It has carefully drawn variables; conclusions that have real relevance for consumers and particular industries in the real world; and, most important, an acknowledgement of limitations and suggestions for future research. As a discussant, there is little to do, other than admire the work.

However, I do have one concern that expresses a personal prejudice. The authors state that the main focus of this research is on the association of two political variables-method of selecting commissioners and term of service--with automobile insurance rates. Further, the hypothesis is that elected commissioners and fixed term lengths are expected to be associated with lower insurance rates. Any further discussion of this relationship is quickly dropped once the political variables are found not to be statistically significant. Although it flies in the face of common practice, particularly at this conference, I think we sometimes might be better served if statistical tests and results are used to guide our theories and reasoning but do not automatically dictate our conclusions. I don't believe that statistical significance automatically outweighs conceptual significance. If the political variables were important enough to warrant the main focus in this paper, then their outcome is important enough to warrant an explanation.

What this is leading to is not a criticism of the paper but a request to the authors, who have already created a body of work investigating the relative importance of these political factors vis a vis an array of supply and demand conditions within different regulatory environments. For example, in 1988, the authors conducted a somewhat similar study investigating the impact of political and regulatory factors on flat-rate residential telephone rates. In this analysis, supply and demand variables were also incorporated in the regression equation. In contrast to current findings, length of term of public utility commissioners was significantly related while the economic factors of supply and demand played much less a role in rate determination. In the 1988 study, the authors carefully point out that we might expect the economic factors to become more influential as telecommunications markets become more deregulated.

I think it would be most enlightening if the authors were to develop a framework, perhaps taking the form of a matrix based upon their investigations in this area, that categorizes the potential impact of political and economic factors upon consumer welfare in regulated industries within the context of the particular regulatory environment. Although theory usually comes before empirical testing, I think we can use the results of these authors' previous and current studies, as well as the conflicting results reported in the review of literature, to strengthen the theoretical basis behind these types of regulatory studies. I believe that with the authors' obvious interest in questions of this type, they could make an additional valuable contribution to our field of knowledge.

FEMALE BABY BOOMERS--SAVINGS OVER TIME

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Marital status and the presence of children appear to affect financial well-being of female baby boomers. This descriptive report using data from the 1986 Survey of Consumer Finances reveals some differences in average financial measures between baby boomer households depending on marital status and gender of the household head. Single female baby boomer households had lower average levels of income, net worth, and change in wealth than did their married or male counterparts.

BACKGROUND AND PURPOSE

There is an unusually large group of individuals in our society whose well-being affects societal well-being. This group, popularly known as the "baby boomers", is the largest age cohort in the history of the U.S. It is comprised of those individuals born during the high birth-rate years following World War II, 1946 through 1964.

During the 1950s and 1960s when many of the baby boomers were growing up, the U.S. economy was expanding. These affluent times may have colored this generation's expectations about future economic conditions. However, when many of the baby boomers reached adulthood in the 1970s and early 1980s, the economic times were much more dismal than the times experienced by their parents. (Levy and Michel, 1986; Thomas, 1986)

Economics is just a part of the departure from the lifestyles of their parents. These differences from parental lifestyles include a greater number of single female headed households, more households in which one or both spouses have had previous marriages, a greater incidence of never married households, and more dual earner married households among the baby boomers. (Wattenberg, 1986)

The increased numbers of married women, particularly married women with children, in the labor force today has affected the well-being of female baby boomers. The traditional household sexual division of labor still exists. Women, regardless of employment status, still perform the majority of tasks within the household. Many baby boomer women are experiencing work overload by the addition of full-time employment to already existing full-time jobs of housework and childcare. There is some evidence that women as a group have not improved their level of economic well-being relative to men. (Fuchs, 1988) Fuchs determines this by comparing female to male labor market wage rates, leisure time, and time devoted to household production. Because of time constraints, women are trading more purchased services, convenience foods, meals in restaurants, and out of home childcare for more traditional forms of household production. These goods and services cost money; women are trading their hard-earned dollars for these traditionally female provided household services.

There are more divorced and remarried households among the baby boomers than in any prior generation. Marital dissolution may have long-lasting financial consequences for women. Many single female headed households have experienced financial difficulties attributable to lower wages paid to women as well as to inadequate or nonexistent child support or spousal maintenance. (Peterson, 1989)

When the baby boomers grew up, they were led to believe that they could have it all - exciting careers, happy families, and fulfilling lives. It is true that the women of the baby boom are creating history. They are the first generation of women, for which the majority will experience full-time labor force participation. They are better educated than any prior cohort of women in the U.S. Many of these baby boomer women are trying to maintain families, with or without husbands, both monetarily and emotionally. They have given up leisure and sleep in order to try to make their families' lives better. It is doubtful that many of these baby boomer women expected these consequences of labor market employment.

The purpose of this study is to see how the female baby boomers are faring financially over time as compared to other segments of the baby boom. This descriptive report is the first step in a more comprehensive study of the well-being of female baby boomers which is to follow.

DATA

The data used were from the 1986 Survey of Consumer Finances. A subsample from the data was determined by year of birth. The criterion for selection was that the household head and spouse, if a spouse was present, must have been born between 1946 and 1964. There were 811 households which met this criterion.

Average levels of financial attributes of the baby boomer households were compared for subsamples determined by marital status and gender. The primary variables of interest were change in savings and real change in savings which reflect the nominal and real changes in household wealth occurring between 1983 and 1986.

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The marital status categories were married, single male, and single female. Single male and single female categories were then subdivided into groups of never married and previously married.

RESULTS

Descriptively, there are some differences and similarities among the marital status subsamples. Some of the financial characteristics of the subsamples are described below. Tables 1 and 2 depict these descriptive financial characteristics.

Married. Two-thirds of the baby boomer households were married at the time of the 1986 survey. The married baby boomers were, on average, slightly older than their single counterparts; both mean and median levels of net worth were much higher for married baby boomer households than for single baby boomer households, regardless of gender. It should also be noted that the married households, on average, also held more debt than did either the single male or single female baby boomer households. Additionally, the mean and median levels of income for these married households were almost twice the comparable levels for single female households. In 1985, half of all the married baby boomer households reported household income of at least $32,000.

Overall, the married baby boomer households had substantially higher average levels of net worth than did their single counterparts. Previous research has indicated that married baby boomer couples are better off financially than are single baby boomers. (Russell, 1987; Slater and Crane, 1986) These results concur.

TABLE 1. Average Financial Measures of Baby Boomer Households by Marital Status.

	Married N=537	Single Male N=120	Sgl Female N=154
Net Worth			
Mean	$ 117,724	$ 47,151	$ 30,985
Median	$ 38,427	$ 20,030	$ 10,950
Std. Dev	$ 531,158	$ 81,322	$ 64,353
Income			
Mean	$ 38,213	$ 25,228	$ 19,675
Median	$ 32,000	$ 21,000	$ 17,000
Std. Dev	$ 49,665	$ 18,312	$ 13,580
Savings Chng			
Mean	$ 24,115	$ 24,764	$ 5,648
Median	$ 11,064	$ 9,103	$ 3,165
Std. Dev.	$ 446,516	$ 65,509	$ 90,432
Real Svg Chg			
Mean	$ 13,766	$ 22,220	$ 2,686
Median	$ 8,282	$ 7,179	$ 2,404
Std. Dev.	$ 511,216	$ 66,235	$ 99,324
CrCard Debt			
Mean	$ 1,031	$ 693	$ 549
Median	$ 300	$ 0	$ 0
Std. Dev.	$ 1,898	$ 1,532	$ 1,264
Paper Assets			
Mean	$ 42,862	$ 11,554	$ 10,763
Median	$ 7,298	$ 5,888	$ 3,000
Std. Dev.	$ 408,681	$ 17,465	$ 22,406
Total Debt			
Mean	$ 56,915	$ 16,696	$ 13,274
Median	$ 29,266	$ 5,004	$ 1,561
Std. Dev.	$ 355,668	$ 26,494	$ 27,471

Married households also had higher average levels of other financial measures - household income, credit card debt, total paper assets, and total debt. Married households had higher debt to equity ratios than did either male or female single households. The only financial categories in which the married baby boomer households did not have the highest average levels were change in savings from 1983 to 1986, both before and after accounting for inflation. While single male baby boomer households had the highest mean levels of nominal and real change in savings, married households had higher median levels of change in savings, both nominal and real, than did either single male or single female households.

It could be argued that the wife is entitled to one-half of the net worth and income in a married household. If this were true, the average net worth entitlement for married baby boomer women would be more than double the average level of net worth for single baby boomer women and 25 percent more than the average level of net worth for single baby boomer men. If married baby boomer women were entitled to half of the household income, their average income would approximate the average income of single females and 25 percent less than the average income for single male baby boomers.

Single Male. Approximately 15 percent of the baby boomers in this sample were single men. Sixty percent of these single men had never been married; the remainder had been married one or more times. Even though single male baby boomers were, on average, slightly younger than the single female baby boomers, single male households had higher average levels of net worth and income than did their female counterparts. The single male households also had slightly higher average levels of debt than did the single female households. Of all the marital status categories, single males had the largest average increase in level of savings since 1983.

Previously married single men had higher average levels of net worth, household income, change in savings, and total debt than did the other single categories, male or female. Mean and median levels of net worth for previously married single men were more than double the average levels of net worth for never married single women, the group with the lowest average levels.

Single Female. There were 154 single female baby boomer households in the sample, almost two-thirds of whom had been previously married. The single female households had lower mean and median levels of net worth, household income, change in savings, and total debt than did either the married or single male baby boomer households. Half of these single females households had incomes of $17,000 or less in 1985 as compared to median incomes of $21,000 and $32,000 for single male and married baby boomer households, respectively.

Although never married single females had slightly higher average levels of household income than did previously married single women, never married women had mean levels of net worth 40 percent lower than previously married single women. Half of the never married females had net worth of $8,604 or less.

After accounting for inflation, previously married single female households, on average, experienced more than a $1,900 decrease in savings from 1983 to 1986. This compares to an average increase in real savings of more than $25,000 for previously married single male baby boomers during the same time period.

TABLE 2. Average Financial Measures for Single Baby Boomer Households.

	Never Mrd Male N=74	Once Mrd Male N=46	Never Mrd Female N=56	Once Mrd Female N=98
Net Worth				
Mean	$ 44,582	$ 51,284	$ 21,568	$ 36,367
Median	$ 18,193	$ 21,770	$ 8,604	$ 13,072
STD	$ 73,764	$ 92,917	$ 31,017	$ 76,852
Income				
Mean	$ 24,216	$ 26,857	$ 20,158	$ 19,399
Median	$ 20,000	$ 23,250	$ 18,750	$ 16,000
STD	$ 18,700	$ 17,752	$ 13,953	$ 13,428
Svngs Chg				
Mean	$ 22,562	$ 28,305	$ 11,856	$ 2,100
Median	$ 9,335	$ 8,832	$ 4,524	$ 2,120
STD	$ 52,479	$ 82,825	$ 21,613	$ 112,247
Rl Sv Chg				
Mean	$ 20,102	$ 25,628	$ 10,749	$ -1,921
Median	$ 7,280	$ 7,088	$ 3,376	$ 1,493
STD	$ 53,914	$ 82,865	$ 21,040	$ 123,494
CrCd Debt				
Mean	$ 614	$ 818	$ 639	$ 487
Median	$ 0	$ 0	$ 0	$ 0
STD	$ 1,440	$ 1,679	$ 1,337	$ 1,223
P. Assets				
Mean	$ 11,590	$ 11,497	$ 9,982	$ 11,210
Median	$ 5,088	$ 6,635	$ 3,529	$ 2,768
STD	$ 19,443	$ 13,906	$ 14,491	$ 25,928
Ttl Debt				
Mean	$ 15,804	$ 18,131	$ 9,385	$ 15,496
Median	$ 4,550	$ 7,295	$ 1,561	$ 1,628
STD	$ 27,802	$ 24,472	$ 18,992	$ 31,178

It appears that at the time of the survey, married baby boomer households were generally better off financially than non-married baby boomer households. But there are also, on average, more family members in married households. Additionally, single female households on average appear to be fairly similar in many financial respects to single male households. Because of divorce, the likelihood of mothers serving as custodial parents, and the birth of children out of wedlock average single female households are larger than average single male households. Therefore, it was decided to compare per capita financial measures to get a better representation of comparative financial well-being.

Per Capita Measures

Per capita measures of net worth, income, change in savings, and debt are even more telling. These financial measures are described below and depicted in Tables 3 and 4.

Married. Not surprisingly, married households had the largest average household size. The average per capita levels of net worth and total debt for married households were approximately double the mean levels of net worth and total debt for single female households and ten percent more than the mean levels of net worth and total debt for single male households, despite the larger average family size in married households. Average levels of per capita income were similar to the respective per capita income measures for single female households. Both mean and median levels of per capita income for single male households were almost double those for married and single female households.

TABLE 3. Average Per Capita Financial Measures of Baby Boomer Households.

	Married N=537	Single Male N=120	Sgl Female N=154
Net Worth			
Mean	$ 37,181	$ 34,739	$ 18,486
Median	$ 9,909	$ 15,946	$ 5,753
Std. Dev.	$ 225,301	$ 62,615	$ 42,995
Income			
Mean	$ 11,776	$ 20,799	$ 11,928
Median	$ 8,750	$ 18,000	$ 8,417
Std. Dev.	$ 22,926	$ 17,777	$ 10,872
Savings Chg			
Mean	$ 3,893	$ 17,349	$ 4,784
Median	$ 2,994	$ 7,023	$ 1,821
Std. Dev.	$ 191,710	$ 53,221	$ 30,240
Real Svg Chg			
Mean	$ 247	$ 15,367	$ 3,213
Median	$ 2,464	$ 6,357	$ 1,014
Std. Dev.	$ 228,898	$ 53,608	$ 31,730
CrCard Debt			
Mean	$ 320	$ 592	$ 352
Median	$ 75	$ 0	$ 0
Std. Dev.	$ 684	$ 1,483	$ 896
Paper Assets			
Mean	$ 15,771	$ 9,396	$ 8,101
Median	$ 2,052	$ 4,000	$ 1,337
Std. Dev.	$ 196,782	$ 13,920	$ 20,577
Total Debt			
Mean	$ 15,456	$ 14,301	$ 8,155
Median	$ 7,291	$ 4,550	$ 830
Std. Dev.	$ 72,207	$ 24,443	$ 21,815

Single Male. Although married households had the highest mean level of per capita net worth among the different marital status subsamples, single male households had the highest median level of per capita net worth. Half of the single male baby boomer households had net worth of at least $15,945.50 per person in the household. Single male households also had the highest mean and median levels of per capita income and per capita change in savings as compared to their married and single female counterparts. Average per capita income for the single male baby boomer households was almost double per capita average income for both married and single female baby boomer households. Average per capita real change in savings for single men was more than four times greater than average per capita real change in savings for single female baby boomers and more than 60 times greater than the average per capita real change in savings of married baby boomer households.

Single Female. Of the different marital status type households, single female baby boomer households had the lowest average per capita levels of net worth . Although average per capita level of household income for single female households was slightly higher than the average per capita level for married households, the single female average per capita income was more than 40 percent less than the average per capita income for single male households.

The average per capita income for previously married female households was 45 percent lower than that for never married female households, almost 55 percent lower than that for never married male households, and 58 percent less than that for once married male households. While average per capita measures of net worth were fairly similar for never married and previously married females, average per capita measures of net worth for single men were much higher.

TABLE 4. Average Per Capita Financial Measures for Single Baby Boomer Households.

	Never Mrd Male N=74	Once Mrd Male N=46	Never Mrd Female N=56	Once Mrd Female N=98
Net Worth				
Mean	$ 32,755	$ 37,930	$ 17,658	$ 18,959
Median	$ 15,946	$ 15,952	$ 6,580	$ 5,521
STD	$ 50,207	$ 79,132	$ 27,076	$ 49,994
Income				
Mean	$ 20,170	$ 21,810	$ 16,697	$ 9,203
Median	$ 18,000	$ 17,833	$ 16,750	$ 6,667
STD	$ 17,779	$ 17,923	$ 12,792	$ 8,547
Svngs Chg				
Mean	$ 14,622	$ 21,736	$ 9,314	$ 2,195
Median	$ 7,314	$ 6,686	$ 3,429	$ 899
STD	$ 27,939	$ 78,689	$ 17,374	$ 35,392
Rl Sv Chg				
Mean	$ 12,588	$ 19,836	$ 8,364	$ 269
Median	$ 4,955	$ 6,357	$ 3,155	$ 514
STD	$ 28,053	$ 79,310	$ 16,742	$ 37,484
CrCd Debt				
Mean	$ 548	$ 662	$ 587	$ 218
Median	$ 0	$ 0	$ 0	$ 0
STD	$ 1,417	$ 1,597	$ 1,328	$ 467
P. Assets				
Mean	$ 9,796	$ 8,752	$ 9,118	$ 7,520
Median	$ 3,286	$ 5,567	$ 3,230	$ 750
STD	$ 15,648	$ 10,699	$ 14,256	$ 23,488
Ttl Debt				
Mean	$ 13,515	$ 15,564	$ 8,659	$ 7,866
Median	$ 3,344	$ 6,594	$ 930	$ 656
STD	$ 24,895	$ 23,913	$ 18,984	$ 23,367

Difference of Means

Difference of means tests were performed on several of the financial measures to determine if the differences between the marital status subsamples were statistically significant. The subsamples in question were single males versus single females, never married males versus never married females, and previously married males versus previously married females. The variables of interest were household and per capita measures of 1985 income, net worth, change in savings, and real change in savings.

The null hypothesis for each of the comparisons was that there was no difference in the means for each of the variables per each two-way comparison. The t-test was used to determine statistical significance at the .05 probability level.

The null hypotheses were rejected for single male versus single female average levels of income, nominal change in savings, per capita income, per capita net worth, and per capita changes in savings, both nominal and real. Rejection of these null hypotheses indicated differences in means between single male and single female baby boomer households for those financial variables at the .05 level.

TABLE 5. Difference of Means for Single Male and Single Female Baby Boomer Households.

Variable	Mean Score Sgl Male N=120	Mean Score Sgl Female N=154	t
Income	$ 25,228	$ 19,675	2.779**
Net Worth	$ 47,151	$ 30,985	1.785
Savings Change	$ 24,764	$ 5,648	2.028*
Real Change	$ 22,220	$ 2,686	1.947
Per Capita Income	$ 20,798	$ 11,928	4.810**
Per Capita Net Worth	$ 34,739	$ 18,486	2.432*
Per Capita Svgs Change	$ 17,349	$ 4,784	2.312*
Per Capita Real Change	$ 15,366	$ 3,213	2.201*

*: Significant at the .05 level
**: Significant at the .01 level

When comparing the means for never married male and female baby boomer households, only the null hypothesis that there was no difference in the mean level of net worth was rejected at the .05 level. This was true for both the household and per capita measures.

TABLE 6. Difference of Means for Never Married Male and Female Baby Boomer Households.

Variable	Mean Score Never Mrd Male N=74	Mean Score Never Mrd Female N=56	t
Income	$ 24,215	$ 20,158	1.417
Net Worth	$ 44,582	$ 21,568	2.416*
Savings Change	$ 22,562	$ 11,856	1.586
Real Change	$ 20,102	$ 10,769	1.362
Per Capita Income	$ 20,170	$ 16,697	1.295
Per Capita Net Worth	$ 32,755	$ 17,658	2.199*
Per Capita Svgs Change	$ 14,622	$ 9,314	1.329
Per Capita Real Change	$ 12,588	$ 8,364	1.068

*: Significant at the .05 level
**: Significant at the .01 level

For previously married male and female households, the null hypotheses were rejected for household and per capita measures of income as well as for nominal change in savings at the .05 level.

TABLE 7. Difference of Means for Previously Married Male and Female Baby Boomer Households.

Variable	Mean Score Once Mrd Male N=46	Mean Score Once Mrd Female N=98	t
Income	$ 26,857	$ 19,399	2.530*
Net Worth	$ 51,284	$ 36,366	1.014
Savings Change	$ 28,305	$ 2,100	1.573*
Real Change	$ 25,628	$ -1,921	1.578
Per Capita Income	$ 21,810	$ 9,203	4.535**
Per Capita Net Worth	$ 37,930	$ 18,959	1.492
Per Capita Svgs Change	$ 21,736	$ 2,195	1.610
Per Capita Real Change	$ 19,836	$ 269	1.592

*: Significant at the .05 level
**: Significant at the .01 level

DISCUSSION AND IMPLICATIONS

The aforementioned descriptive statistics indicate that there were some inequities in financial well-being existing among baby boomer households. Single female baby boomer households were, on average, less well off in many financial respects. The distribution of per capita measures of financial well-being across households with different marital statuses revealed even more disparity. Again, the single female households were the least well-off in many financial respects. Average per capita household income for single female households was slightly greater than that for married households. However, this does not mean that the single female households were better off than their married counterparts. There are several factors which must be considered. This difference in per capita household income may include a greater incidence of part-time employment or no labor market employment by one of the spouses, which is less of an option for single parent households. An adult at home for part or all of the day allows greater time for household production. Additionally, there are certain economies of scale enjoyed by the larger average households of married households which may also partially offset the difference in per capita income between married and single female households.

Another apparent inequality is the difference between mean and median levels of financial well-being for single male versus single female baby boomer households. The difference in household income may reflect dissimilar male and female wage rates as well as penalties for labor market discontinuity due to childbearing. Additionally, the vast difference in per capita measures for single male versus single female baby boomer households may represent the greater likelihood for mothers to be custodial parents or for women to choose to have families outside of marriage. The difference which exists between per capita household income for previously married men and women is overwhelming. The previously married single male average per capita household income is more than double the average per capita income for the previously married single female. It appears that many of the previously married single female baby boomer households do not have the discretionary income that their male counterparts have.

This difference in average levels of household income may also partially explain why previously married single female baby boomers experienced an average decrease in real savings from 1983 to 1986 while their male counterparts experienced an average increase of more than $25,000. It appears that some of the previously married single women are dissaving to live while the previously married single men are, on average, managing to save.

A 1986 Time article claimed that perhaps the most important contribution baby boomers will make to society will be the emancipation of women. (Thomas, 1986) It is true that female baby boomers are better educated than their predecessors. It is also true that a greater percentage of baby boomer women are employed in the labor market than any prior generation. This does not mean that the female baby boomers are all working in exciting, high-paying jobs. The female baby boomers are still predominately employed in traditionally female 'pink-collar' jobs earning traditionally female 'pink-collar' wages. (Russell, 1987)

The large difference in average measures of changes in savings for previously married single male and single female baby boomer households reflects disparity which may be caused by many things, one of which may be the court system. Judges have reacted to the emancipation of women by judging that women today are better equipped to provide for themselves and their children, and consequently not awarding spousal maintenance or sufficient child support. Little or no attention is given to the facts that women, on average, earn less than men and that women are more likely to be penalized in the labor market for being mothers. (Mason, 1988)

These results imply the need for some societal changes to better meet the needs of a generation of women which grew up expecting equality and is now faced with the realities of inequality and discrimination. Better enforcement of anti-discrimination laws could be a first step in mitigating some of the apparent inequities. However, anti-discrimination laws do not address the inherent problem of wage differentials attributable to occupational segregation. Pay equity is the best immediate solution for occupational segregation. Continued improvement of non-sex biased methods of socializing children is needed as long-term solutions for both occupational segregation and the problem of female overemployment due to the traditional household sexual division of labor.

It is time for the states to review legislation and customs pertaining to divorce and the awarding of child support. The current system appears to be penalizing women and children in the name of equality.

The female baby boomers entered adulthood with many expectations about their futures. Instead of fulfilling dreams, many of these baby boomer women are facing harsh financial realities. Single female baby boomers, on average, do not appear as financially secure as their single male counterparts. Married female baby boomers have higher average levels of wealth than do single females. Historically women had to marry to achieve financial security. Apparently this has not changed.

The impact of children on average levels of financial well-being for this group of women raises the issue that women should consider the financial consequences of childbearing. The female baby boomers are the first generation of women to have reached adulthood with fairly adequate forms of birth control available. This means that these women had more choice in the decision of childbearing. However, it should be noted that the financial consequences of childbearing should be considered as an important part of the decision.

Never married female baby boomer households had lower average levels of wealth than did their male counterparts. Although this may have been partially attributable to lower female wages, the difference between average levels of wealth was far greater than the differences between average levels of income for never married male and female households. This raises a question about the female baby boomer's perception about the permanence of being single. Perhaps these women feel that one day they will be married and consequently do not need to think about the financial consequences of inadequate savings. If this is a reality, it should be addressed immediately to avoid a generation of single women who are financially unprepared.

Future research about the female baby boomers should include comparisons with prior age cohorts to determine the importance of age versus stage in the family life cycle on financial decisions. Additionally, there are some further questions which should be addressed to determine whether homogeneity among the baby boom cohort exists; to ascertain the factors associated with these apparent differences in wealth among the baby boomers; to further address the impact of change in marital status and family size on financial well-being; and to investigate the possible relationship between the financial and emotional well-being of this generation of women which is making history.

REFERENCES

Fuchs, Victor R. (1988) Women's Quest for Economic Equality, Cambridge: Harvard University Press.

Levy, Frank S. and Richard C. Michel. (1986) "An Economic Bust for the Baby Boom," Challenge, (March/April): 33-39.

Peterson, Richard R. (1989) Women, Work, and Divorce, Albany: State University of New York Press.

Mason, Mary Ann. (1988) The Equality Trap, New York: Simon and Schuster.

Russell, Cheryl. (1987) 100 Predictions for the Baby Boom, New York: Plenum Press.

Slater, Courtenay and Christopher Crane. (1986) "The Net Worth of Americans," American Demographics, 8 (July): 4-6.

Thomas, Evan. (1986) "Growing Pains at 40," Time, May 19: 22-41.

Wattenberg, Esther. (1986) "The Fate of the Baby Boomers and Their Children," Social Work, (January/February): 20-28.

RETIREMENT SAVINGS OF BABY BOOMERS AND AN EARLIER COHORT: 1960 AND 1983

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Data from the 1960 and 1983 *Survey of Consumer Finances* were used to test for differences in two measure of financial preparedness for retirement between members of two cohorts. The two measures of financial preparedness included a retirement assets to income ratio and a net worth to income ratio. Both ratios were smaller for sample members from 1983. However, the difference in mean ratios between the two age cohorts were not significant. Future research was discussed.

The current generation of retirees is fairly well off by U. S. income standards. Although on average they have less income than some younger population groups, their per capita income is greater. However, several social and demographic changes have occurred which require one to ponder the differences that may arise between the current generation of retirees and the next. These changes include an increased number of retirees, increased life expectancies, a higher divorce rate, changes in real wages, credit and savings rates and a decreasing employee pool. All of these factors may combine to adversely effect the sufficiency of retirement income to meet the income needs of the next generation of retirees.

During the post World War II era, from 1946 to 1964, approximately 75 million babies were born. This group is referred to as the Baby Boom generation. The Baby Boom generation can be easily divided into two groups: (1) the early boomers (those between ages 27 and 37 in 1983) and (2) the younger or late boomers (those aged 18 and 26 in 1983).

The Baby Boom cohort accounts for 36.9% of the U. S. population and 50% of the labor force. In 21 years (2011) the first of the Baby Boomers will begin retiring. Members born in the last year of the cohort will begin retiring in 39 years (2029). The size of the cohort has prompted many professionals to concern themselves with the future financial security of the cohort.

In addition to increasing numbers of retirees, Americans are living longer. A person born in 1920 was expected to live to age 54. Life expectancy for a person born in 1985 was 74.7 years (U. S. National Center for Health Statistics, 1987).

Several factors interacted to change the financial profile of the American household during the past three decades. The current generation of labor force participants was the first to have access to large amounts of short-term personal debt. Bank and retail credit cards became very popular in the late '60s and early '70s. Consumer installment credit rose by 132% in real terms between 1978 and 1987. Real personal debt reached its highest level (in dollars) during the summer of 1987 (U. S. Department of Commerce, 1988).

Although the savings rate is rebounding now, as a proportion of disposable income it dropped from 6.8% to 3.8% during the '80s (U. S. Department of Commerce, 1988). This figure does not include savings in the form of home ownership, the most popular form of retirement savings and the largest for many families (U. S. Bureau of the Census, 1985). Yet, the age at which individuals purchase their first home has risen from 28 years in 1976 to 31 years in 1986 (Chicago Title Insurance Company, 1987). While only 19% of families headed by a person over age 65 have mortgage debt (Avery et al., 1984), the increased age at first time home ownership may cause current workers to retire with an outstanding home mortgage balance.

In addition to decreasing savings rates and increasing consumer installment debt, the level of real wages has dropped since 1980 (U. S. Bureau of Labor Statistics, 1986). In 1980, a worker earned an average of $173 a week. The average weekly earnings in 1985 in real terms was only $170.

Researchers, economists, and policymakers, as well as those in applied fields such as financial planning and cooperative extension should be concerned with the financial security of future retirees because of the change in societal and financial environments since the early '60s. One way to analyze the financial security of future retirees is to compare the amount of funds set aside for retirement by a pre-retired group during a particular life cycle stage to that of an earlier cohort.

Because the Baby Boomer cohort is so much larger than previous groups, it is believed that they exhibit different economic behavior than earlier population groups. The purpose of this study was to study the financial preparedness for retirement of a specific sub-sample of the population: Baby Boomers and an equally defined, earlier cohort.

LITERATURE REVIEW

The domain of retirement planning studies is expanding. Earlier studies concerning retirement planning focused on either retirement timing decisions, retirement savings decisions (including life cycle savings patterns), or retirement planning behaviors. Recent studies appeared to be more applied in nature and concentrate on determining retirement savings needs of families using a retirement analysis or expert systems framework.

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The relationship between several sociodemographic variables and retirement timing decisions has been the focus of many studies. These variables included age, education, occupation, health, marital status, retirement income, and asset levels (Barfield and Morgan 1969; Feldstein 1974; Schwab 1974; Parnes, Adams, Kohen and Nestel 1975; Schultz 1976; Boskin and Hurd 1978; Hogarth 1981).

The life cycle hypothesis, developed in the '50s, is a method of calculating appropriate consumption and savings rates functions over the lifespan (Modigliani and Brumberg 1954; Friedman 1956; Ando and Modigliani 1963). In attempts to estimate savings rates needed to meet retirement goals, the life cycle hypothesis has been used to develop a retirement analysis framework by Duncan, Mitchell and Morgan (1984) and applied to consumer finance data by Burns and Widdows (1988) and Burns (1988).

Much of the aforementioned research assumed that given constant income, consistent utility patterns, and a zero percent rate of growth on assets, consumers will even out their consumption rates over the life cycle. In other words, the rate of consumption is constant over the lifespan, and consumers only spend more money if real income rises. Hanna (1989) took a different approach to studying optimal consumption and savings patterns. He suggested that consumers would not try to optimize consumption but to maximize utility over the lifespan. Utility is a function of the risk aversion of the individual, interest rates, and the probability of death.

The effect of the availability of Social Security and corporate pension funds on retirement savings behavior was the core concern in another direction retirement research has taken (Katona 1965; Munnell 1974a, 1974b; Feldstein 1974; Darby 1979; Koskela and Viren 1983; Lesnoy and Leimer 1981, 1985). The results of these studies are mixed. Some researchers concluded that savings rates were affected by the availability of other retirement income plans and the others reported finding no effect.

ECONOMIC STATUS OF RETIREES

The economic status of retirees can be measured in several ways. Economic status measurements are often based on some minimum standard of living and the price of living at this standard is determined. The result is a poverty line measure that can be adjusted for household size and urban/rural residence (Orshansky, 1965).

One can also determine economic status in retirement by comparing post-retirement level of living with pre-retirement level of living. A measure of this comparison is the replacement rate or ratio of annual post-retirement income to annual pre-retirement income. This measure is typically used for evaluating the importance of Social Security or employer pension benefits to total retirement income. Defining appropriate replacement rates is the subject of several papers (Ross, 1976; Meier, Dittmar, & Torrey, 1980; Wertheimer, 1980). It is suggested that retirees do not need the same income after retirement to enjoy pre-retirement level of living and that the replacement rate decreases as pre-retirement income increases.

The assessment of economic status of retirees is often made relative to those still in the labor force. On average, retirees currently enjoy a per capita income greater than labor force participants.

FINANCIAL PREPAREDNESS FOR RETIREMENT

Retirees traditionally rely on four sources of income during their retirement years: Social Security, corporate or employer pension plans, personal savings and investments (both principal and earnings), and employment outside the home. Retirees age 65-71 currently obtain 34% of their retirement income from Social Security, 17% from other pensions, 20% from asset income and 25% from earnings. After age seventy-two, retirees rely more heavily on Social Security and asset income to provide income (Schick, 1986). In addition, many retirees depend to some extent on money or non-money resources of family, friends, and community provided services.

While some studies measure the economic status of retirees, retirement planning requires evaluating the position of pre-retirees relative to retirement needs. Many methods can be used; most use the life cycle hypothesis as a theoretical base.

Several methods can be used to evaluate one's financial preparedness for retirement. All methods generally focus on some definition of savings rates and patterns of savings rates over the working life. One method includes determining savings rates that would allow one to even out consumption over a lifetime. The theoretical base for these methods is the life cycle hypothesis and its variations (Modigliani & Brumberg, 1954; Friedman, 1956; Ando & Modigliani, 1963). The life cycle hypothesis assumes that constant consumption is desirable, real interest rates are zero and that one does not have a bequest motive.

An applied framework using the life cycle hypothesis as a theoretical base was developed by Duncan, Mitchell and Morgan (1984). Tests of varying the inputs in the framework were completed by Burns and Widdows (1990).

Hanna (1989) suggests that retirement savings behavior is based on risk preferences and that consumers will use consumer credit early in the lifespan to offset future real income increases. His basic premise is not one of constant consumption over the lifespan, but maximizing utility over the lifespan. Under his method, a high debt, low asset financial position in early life cycle stages need not preclude a sufficiently funded retirement.

A third framework would be to simply compare the value of annual income available during retirement to either pre-retirement income, or some pre-determined need level. Of course, this method includes studying asset levels because some retirement income must be generated from the investment of funds saved at an earlier point in time. This has been done by Burns (1988) and Burns and Widdows (1989).

A fourth measure of financial preparedness for retirement consists of valuing a person's private asset holdings and dividing the value by annual income. This ratio suggests that a person with constant consumption, zero inflation, and a zero real growth rate on assets, and no other source of funds would deplete his/her portfolio in equal installments over a number of years equal to the ratio.

Fifth, a more accurate measure of the value of funds available for retirement is based on net worth, or the value of assets minus the value of related debt. For example, to evaluate someone's financial preparedness for retirement based on the value of his/her home and not the equity in the home would overestimate financial preparedness if there was an outstanding mortgage balance. Thus, it is more realistic to subtract debt because it either reduces one's future disposable income or must be paid off by liquidating assets. Using either a personal asset/income ratio or a net worth/income ratio ignores the availability of other income sources during retirement.

METHODOLOGY

Data from the 1983 and 1960 *Survey of Consumer Finances* were used to compare the financial preparedness for retirement of the Baby Boom cohort and an earlier cohort. It was expected that financial preparedness for retirement would be significantly different for members of the two groups.

Sample

Data from the 1983 *Survey of Consumer Finances* were used to assess the financial preparedness for retirement of the Baby Boom cohort and data from the 1960 *Survey of Consumer Finances* for the earlier cohort. The *Survey of Consumer Finances* is an ongoing study of U. S. consumers, their financial status at a point in time, their use of credit, and their attitude toward the use of specific debt instruments as well as attitude toward the economic environment.

The samples used in the *Survey of Consumer Finances* research were representative of the U. S. population. The 1960 study used a multi-stage, stratified probability sampling technique and resulted in a sample size of 2,972 (Economic Behavior Program, 1961). The nationally representative, area probability sample in the 1983 study resulted in a sample size of 3,824 (Avery & Elliehausen, 1988). The supplemental, high income sample was not used in this study.[2]

The purpose of this study was to study the financial preparedness for retirement of a specific sub-sample of the population: Baby Boomers and an equally defined, earlier cohort. Therefore, households which contained a head of household between the ages of 27 and 37 in 1960 and 1983 were chosen for study. The final sample sizes were 295 and 971, respectively.

Financial Preparedness

Due to data constraints, this study measures financial preparedness for retirement using the private asset to income and net worth to income ratios. The value of Social Security benefits was ignored and will result in an underestimation of preparedness for retirement. While approximately 97% of the population is covered by Social Security or a qualified alternative plan (State Teachers' Retirement Systems, for example), Social Security replacement rates have decreased over time and universality of benefits cannot be assumed.

Participation rates in employer sponsored pension plans are not universal. In 1960 only 30% of employees were covered by an employer provided pension plan (Andrews, 1985). In 1983, the participation rate was 56% (Employee Benefit Research Institute, 1984). This study underestimates retirement assets because the participation rate in employer provided pension plans and Social Security is not universal and cannot be ignored yet the 1960 *Survey of Consumer Finances* does not contain pension coverage information.

Variables

This study focuses on the value of non-government, non-employer provided assets. The analysis of privately provided retirement assets was conducted separately for members of the 1960 and 1983 samples. Thus, privately provided retirement assets was defined as the sum of liquid assets (checking and savings accounts, Certificates of Deposit, money market funds, U. S. Savings Bonds, IRAs and Keogh accounts), financial assets (stocks, bonds, mutual funds and trust accounts), and home equity. The 1960 *Survey of Consumer Finances* did not contain information on the value of bonds or trust accounts. The source of error resulting from the inclusion of these two assets in the 1983 analysis was assumed to be negligible.

Net worth was defined as the sum of liquid assets, financial assets, and home equity minus the total non-mortgage debt load. Data for this variable was available in both data sets.

Once the value of private assets and net worth were ascertained, the ratios were created. The private assets/income ratio was equal to the value of private assets divided by gross current income. The net worth/income ratio was calculated in a similar way. A t-test for differences between means was conducted to determine if the mean asset/income ratio and net worth/income rate were significantly different for the 1960 and 1983 cohorts.

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[2] An additional sampling of high-income households was undertaken by the Federal Reserve Board. Approximately 438 complete interviews were obtained. The data from the additional sample was omitted from this study.

RESULTS

Table 1 describes the distribution of households across demographic variables. The samples had significantly different distributions within all demographic variable categories except occupation. Generally, the 1983 sample was more educated, had more female head of households, and was more likely to be a divorced or separated head of household. The 1963 sample members had larger households and fewer earners in the spending unit. Most of these differences in demographic factors reflect changes in societal make-up.

The mean value of financial variables are outlined in Table 2. Comparisons of financial data in nominal dollars across samples cannot be made because of inflationary effects. However, comparisons can be made if ratios are used. 73% of the 1963 sample's retirement assets were held in the form of home equity. Only 43.5% of the 1983 sample's retirement asset consisted of home equity. Debt as a percentage of assets was 8% for the 1960 sample and 9.1% for the 1983 sample. The retirement assets/income ratio was 1.24 for the 1963 sample, and 1.013 for the 1983 sample. The net worth/income ratio was less than 1 (.854) for the 1983 sample and more than 1 (1.137) for the earlier cohort.

A t-test was used to answer the question, "Is the difference between mean retirement assets/income ratio and net worth/income ratio of the two cohorts significant?" Table 3 outlines the result of the t-test. The mean values of both ratios were not significantly different between samples at the $p < .05$ level. The net worth/income ratio had a larger mean difference than the retirement asset/income ratio.

CONCLUSIONS

Unlike many popular news articles, this study suggests that the Baby Boomers are not different in their financial preparedness for retirement from an early cohort. This conclusion adds to and supports the work of Russell (1983) who suggests that the Baby Boomers and their parents' generation are not different. Like most studies, its limitations, while allowing a snapshot of a small portion of the puzzle, constrain the use of the results in making broad generalizations.

The t-tests used in this study did not result in significant differences between the mean retirement asset to income ratio or the mean net worth to income ratio for the two samples. There are several methods of gaining financial security at retirement. One is to provide completely for oneself and the other is to participate in programs which provide retirement income and then to reduce private saving accordingly. It is likely that members of the 1963 sample did not have the pension coverage rates that members of the 1983 sample had. Therefore, the 1983 sample's ratios might have been underestimated. Had the data been available, pension plan coverage rates could have been accounted for.

Table 1. Description of the Households.

Variable	1960 Sample n = 295		1983 Sample n = 971	
Age of Head:				
27 - 32	134	45.4	566	58.3
33 - 37	161	54.5	405	41.7
$X^2 = 14.95^*$ (1 df)				
Sex of Head:				
Male	288	97.6	539	55.5
Female	7	2.4	432	44.5
$X^2 = 179^*$ (1 df)				
Race of Head:				
Caucasian	280	94.9	789	81.3
Black	10	3.4	129	13.3
Other	5	1.7	53	5.4
$X^2 = 25.84^*$ (2 df)				
Educ. of Head:				
Grade School	31	10.5	24	2.5
Some High Sch.	53	18.0	88	9.1
High Sch. Dipl	100	33.9	334	34.4
Some College	46	15.6	202	20.8
College Dipl.	63	21.4	323	33.3
$X^2 = 68.7^*$ (4 df)				
Marital Status:				
Married	282	95.6	655	67.5
Single	3	1.0	147	15.1
Widowed	3	1.0	0	0.0
Div./Separ.	7	2.4	169	17.4
$X^2 = 74.43^*$ (3 df)				
Occupation:				
Prof./Technical	54	18.3	184	18.9
Mgrs./Business	64	21.7	165	16.9
Clerical/Sales	44	14.9	128	13.2
Labor/Farm/Srv.	127	43.1	476	49.0
Other	7	2.4	18	1.9
$X^2 = 5.75$ (4 df)				
# of Earners:				
Zero	6	2.0	86	8.9
One	230	78.0	499	51.3
Two or More	59	20.0	386	39.8
$X^2 = 68.13^*$ (2 df)				
# in Household:				
One or Two	23	7.8	348	35.8
Three to Five	215	72.9	570	58.7
Six or More	57	19.4	53	5.4
$X^2 = 81.16^*$ (2 df)				

* Significant at $p < .05$.

Table 2. Description of Financial Variables.

Variable	1960 Sample	1983 Sample
Retirement Assets	$ 8,163 (n=260)	$ 47,256 (n=971)
Home Equity	5,965 (n=295)	20,574 (n=971)
Debts	678 (n=295)	4,332 (n=971)
Net Worth	7,480 (n=260)	42,925 (n=971)
Income	7,530 (n=295)	30,518 (n=971)
Ret Assets/Income Ratio	1.24 (n=260)	1.013 (n=971)
Net Worth/Income Ratio	1.137 (n=260)	.854 (n=971)

Table 3. T-Test for Difference Between Mean Private Asset/Income and Net Worth/Income Ratios.

Ratio	Difference Between Means	t
Retirement Assets/Income	.226	1.00
Net Worth/Income	.283	.183

Not significant at p < .05.

The allocation of the retirement asset portfolio was also different for members of the different samples. Home equity constituted a major portion of the 1963 sample's retirement assets and net worth. Less than 50% of retirement assets and net worth was accounted for by home equity for the 1983 sample. If both samples "saved" an equal percentage of their salary and one sample purchased homes later (as the 1983 sample members did on average), then members of the younger cohort are likely to have a greater proportion of their assets in investments other than real estate.

Limitations

This study used a simple measure of financial preparedness for retirement. The cohorts were studied relatively early in their life cycle (age 27 to 37). Many assets are accrued and debts repaid during the late '30s and early '40s. Previous analyses with the non-retired members of the 1983 sample suggests that individuals' required retirement savings rates decreased to a manageable level by age 55 (Burns and Widdows 1990).

The operational definition of the two measures may also impact the results. For example, members of the 1983 sample had much greater access to credit, both unsecured and secured. A large portion of unsecured credit is used to purchase either non-durable or depreciable assets such as vacations, furniture or clothing. Non-durable and depreciable assets are not reflected in the value of assets. Because earlier cohorts had less access to unsecured credit in the form of bank credit cards one would expect the net worth to income ratio to be significantly higher for members of the 1963 sample. However, the percentage of debt relative to non-mortgage assets was less for members of the 1983 cohort than the 1960 cohort. If credit is used to purchase an income generating or appreciable asset then it will be offset by the value of that asset on a balance sheet. The purpose of credit use will impact the results of a financial statement, and consequently, the ratios.

This study was not a comparison of post-retirement income to pre-retirement income. Therefore, it was not a study of the adequacy of retirement income so much as a measure of how adequate assets would be in the absence of other retirement income. And, the duration income might last is dependent upon the owner's ability to generate income from the asset instead of using the asset as income.

Last, while cross-sectional data is useful in studying financial data at a point in time, it provides no clues as to the process of financial preparedness over time. Thus, it is difficult to determine if Baby Boomers are different from the previous cohort at a given age or life cycle stage or if the process of preparing for retirement will not only be different but end with different results. For example, if Baby Boomers have a higher rate of employer pension coverage, their lower asset/income and net worth/income ratios may be rational and produce a retirement as financially sound as the previous cohort's.

Future Research

Researchers who have studied the effect of the availability of Social Security and private pension funds on private savings (Katona, 1965; Munnell, 1974a, 1974b; Lesnoy and Leimer, 1981). used aggregate data and not individual data. Studies using individual data would be enlightening as to the effect of the availability of these programs on individual patterns of savings. In addition, using individual data allows one to study the effect of socio-economic variables on savings rates. It would also allow for a study of the risks individuals will assume under various retirement plan coverage conditions.

In addition, the retirement analysis framework employed in financial planning requires more in-depth study. The definitions of inputs as well as the use of various assets such as home equity in retirement analysis frameworks will impact the results.

REFERENCES

Ando, A. and F. Modigliani. (1963). The life cycle hypothesis of saving: Aggregate implications and tests. American Economic Review Papers and Proceedings 53:55-84.

Andrews, E. S. (1985). The Changing Profile of Pensions in America. Employee Benefit Research Institute.

Avery, Robert B., Elliehausen, G., Canner, G., & Gustafson, T. (1984). Survey of consumer finances, 1983: A second report. Federal Reserve Bulletin 70(12): 857-868.

Avery, Robert B., and Elliehausen, G. (1988). 1983 Survey of Consumer Finances: Technical Manual and Codebook. (Last Revision). Board of Governors of the Federal Reserve System.

Barfield, R. and J. Morgan. (1969). Early Retirement: The Decision and the Experience. Ann Arbor: Institute for Social Research.

Boskin, M. J. and M. D. Hurd. (1978). The effect of social security on early retirement. Journal of Public Economics 10:361-377.

Burns, Sharon A. (1988). The estimation of retirement savings needs and retirement analysis equations. Ph.D Dissertation (unpublished), Purdue University.

Burns, Sharon A. and Richard Widdows (1988). An estimation of savings needs to adequately fund baby boomers' retirement. Proceedings of the 34th Annual Conference of the American Council on Consumer Interests, Chicago IL: 15-18.

Burns, Sharon A. and Richard Widdows. (1990). Sensitivity of a retirement analysis framework to changes in retirement analysis factors. Financial Counseling and Planning 1:71-91.

Chicago Title Insurance Company. (1987). The Guarantor.

Darby, Michael R. (1979). The Effects of Social Security on Income and the Capital Stock. Washington D. C.: American Enterprise Institute.

Duncan, Greg, Olivia S. Mitchell and James N. Morgan (1984). A framework for setting retirement goals. Journal of Consumer Affairs 18(1): 22-46.

Economic Behavior Program. (1961). 1960 Survey of Consumer Finances. Survey Research Center, Institute for Social Research, The University of Michigan.

Feldstein, M. S. (September 1974). Social security induces retirement, and aggregate capital accumulation. Journal of Political Economy. 82:905-26.

Friedman, Milton (1956). Theory of the consumption Function. Princeton NJ: Princeton University Press.

Hanna, S. (1989). Optimal life cycle savings. Proceedings of the Association of Financial Counseling and Planning Educators.

Hogarth, Jeanne M. (1981). Retirement behaviors of low-income and nonlow-income males. The Ohio State University: Ph.D Dissertation.

Katona, George. (1965). Private Pensions and Individual Saving. Survey Research Center, Institute for Social Research, University of Michigan.

Koskela, Erkki and Matti Viren. (1983). Social security and household savings in an international cross section. American Economic Review 396-410.

Lesnoy, Selig D., and Dean R. Leimer. (1981). Social security and private saving: New time-series evidence with alternative specifications. (Working Paper No. 22), Office of Research and Statistics, Office of Policy, Social Security Administration, 1981.

Lesnoy, Selig D., and Dean R. Leimer. (1985). Social security and private saving: Theory and historical evidence. Social Security Bulletin 48(1):14-30.

Meier, E. L., C. C. Dittmar, and B. B. Torrey (1980). Retirement income goals. Washington D. C.: President's Commission on Pension Policy, Working Paper.

Modigliani F. & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. In Post Keynesian Economics. K. Kurihara (Ed.). New Brunswick, NJ: Rutgers University Press, 388-446.

Munnell, Alicia H. (1974a). The Effect of Social Security on Personal Savings. Cambridge, Mass: Ballinger Publishing Co.

Munnell, Alicia H. (1974b). The impact of Social Security on personal saving. National Tax Journal 27(4):553-568.

Orshansky, M. (1965). Counting the poor: Another look at the poverty profile. Social Security Bulletin, 28:3-29.

Parnes, H. S., Adams, A. v., Andrisani, P., Kohen, A. I., and G. Nestel. The preretirement years: Five years in the work lives of middle aged men (Vol. 4). Washington, D.C.: U.S. Government Printing Office, 1975.

Ross, Jane L. (1976). Maintenance of preretirement standards of living after retirement. Office of Income Security Policy, U. S. Department of Health, Education, and Welfare.

Russell, Louise B. (1982). Baby Boom and the Economy. Washington D.C.: Brookings Institute.

Schawb, K. (1974). Early labor force withdrawal of men: Participants and non-participants aged 58-63. Social Security Bulletin 37:24-38.

Schultz, J. H. (1976). The economics of aging. Belmont: Wadsworth Publishing Co.

U. S. Department of Labor. (1985). Consumer Expenditure Survey: Interview Survey Annual 1985. Bureau of Labor Statistics, Bulletin 2246.

U. S. Department of Commerce (1988). Housing and vacancies and homeownership annual statistics: 1987. Bureau of the Census.

U. S. National Center for Health Statistics. (1987). Vital Statistics of the United States. U. S. Bureau of Census.

Wertheimer, R. F. (1980). Defining an adequate retirement income. Statement before the President's Commission on Pension Policy. Washington, D.C.

RURAL FAMILIES AND THEIR ECONOMIC WELL-BEING; PROCEDURES, METHODS AND CONCEPTUAL MODEL OF NORTH CENTRAL REGIONAL PROJECT NC-182

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A national research project, NC-182, is supported by the Agricultural Experiment stations and the California Cooperative Extension Service and is conducted by eight states (Arizona, California, Illinois, Indiana, Iowa, Kansas, Michigan, and Minnesota). The research project focuses on the effects of family resource utilization in determining the economic well-being of rural families. The study has two primary foci: model development, instrumentation, data collection; and dissemination of research findings to the public and professional sectors.

PROCEDURES

Sample Selection

A well defined procedure was used to identify the rural population for the eight state study. The county was identified as rural if at least 20% or more of the employed persons were engaged in occupations for agriculture, livestock, forestry, mining and/or fishing. The counties were ranked from high to low based on the per capita income change from 1979 to 1985. The list was divided into quartiles and the top and bottom quartiles were used for the random selection of one county for each. These counties were labeled inclining for the top quartile and declining for the bottom quartile.

The sample in each state was randomly selected from a commercial directory service which were updated in November before the sample was drawn in December, 1987. The listings were based on telephone directories that were supplemented with auto registration information and checked for double entry.

Data Collection

A modified Dillman method of data collection was used. The procedures consisted of four steps. A postcard was sent alerting them that a questionnaire would be mailed to them. A second mailing which included a cover letter inviting participation, two survey instruments (one for the financial manager and one for the other adult in the household) and two self-addressed stamped envelopes. A third mailing was a reminder postcard which was sent one week after the survey mailing. A fourth and final mailing was sent two weeks after the postcard and this was identical to the second if there had been no response from the household.

THE PROBLEM

The financial problems faced by farmers and rural communities are similar among the states. Even though the states are not all contiguous, they are all states with high rural populations. Indiana is the least rural of the group. In addition, two states, California and Arizona have higher populations of other than white residents. This diversity is anticipated to add to the richness of the findings.

Scope of the Project

Data have been collected from over 2500 families on: external factors (property laws, employment/unemployment conditions); demographic characteristics (education, age, income, family size/composition); functioning styles (decision making styles, interpersonal relations, family role structure, concordance); and family resource utilization (use of household production, financial management patterns, coping strategies, information-seeking behaviors). The overall dependent variable for the study is the economic well-being of the family.

PREVIOUS RESEARCH

Two previous regional research projects, NC-90 and NC-128 contributed to the basic understanding of family economic well-being, income adequacy, and quality of life. How does the utilization of the family's resources influence the economic well-being of rural families? This is the major question for study in the NC-182 research project. The rural environment is made up of economically sustaining/growing areas and declining rural areas. The round table discussion was a comparison of the profiles of households in these types of counties in four states. The end result was a discussion from the audience of how these comparisons and similar situations have implications for educators and professional involved with families.

REFERENCES

___ (1986). Project NC-182: Family resource utilization as a factor in determining economic well-being of rural families, Official research project proposal. Cooperative State Research Service, USDA. Unpublished.

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RURAL COMMUNITIES: PROFILES AND PERCEPTIONS OF ILLINOIS RESIDENTS

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Profiles of households and perceptions of financial managers in two Illinois counties are compared in this preliminary research study. The project contributes to NC-182, Family Resource Utilization as a Factor in Determining Economic Well-Being of Rural Families.

Households in two Illinois counties were compared based on the economic assessment of the county as sustaining/growing or declining.[2] Residents in the sustaining/growing county were from the west-central section of the state (N=156); those in the declining county were from southern Illinois (N=145).

PROFILES

Little difference exists in household characteristics between the two Illinois counties. In both, somewhat less than three-fifths of financial managers were female. They averaged about 50 years of age, had nearly 13 years of schooling, and were 97% white. Average household size was 2.6 persons. However, financial managers had been married somewhat longer on average in the sustaining/growing county (25.4 years) than in the declining county (22.3 years). The reverse was true for income. Median household income was higher in the declining than in the sustaining/growing county ($23,529 and $16,625, respectively).

Both marital status and income sources help to explain average income differences. In the southern Illinois county, 68.2% of the financial managers had a spouse compared to 65.5% of those in the west-central county. Although nearly seven-tenths of the households in the declining county received income from employment, this was true for somewhat less than three-fifths of those in the sustaining/growing county. Income from savings interest and Social Security was reported by larger percentages of financial managers in the sustaining/growing county, while those in the declining county indicated a somewhat larger percentage of income from pensions.

Presence of chronic health conditions in the household is an important indicator of well-being. At least one member has this condition in 35.7% of the declining and 39.3% of the sustaining/growing county. In the declining county, of those reporting chronic health conditions, somewhat less than three-fifths of the financial managers and two-fifths of their spouses have health conditions that worry them. However, in the sustaining/growing county just under one-half of the financial managers and somewhat over one-half of their spouses have health conditions that worry them.

PERCEPTIONS

Perceptions of financial managers were similar in the two counties concerning community changes in the five years prior to the survey, on the frequency of financial problems experienced by their families, and on their satisfactions with several aspects of life, indicating that these perceptions do not differ based on type of economy in which respondents live. In general, residents perceived negative changes, such as worsening employment conditions and decreasing public services, but did not necessarily see these as affecting them personally.

Data indicate that households in both community types are least likely to get behind on rent or house payments and most frequently have problems not being able to save to have something for emergencies. Financial managers are most satisfied with housing and neighborhoods, then with communities. Although they report somewhat mixed feelings on satisfaction with control over their financial situations and their lives, they are somewhat more satisfied with control of their lives than of their finances.

IMPLICATIONS

These data should be helpful to Cooperative Extension and other educators in developing and providing programs in subject matter areas where they are especially needed (i.e., saving for emergencies, and handling expenses for medical care and health insurance) and in helping households to understand how to control their finances and other aspects of life. Rural development specialists should find the perceptions concerning negative changes in communities and their effect on households useful in targeting areas for improvement in rural communities.

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RURAL CALIFORNIA HOUSEHOLDS--A PROFILE

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In the past decade, California households have been faced with many changes. This is especially true in rural areas and small communities. To learn more about how households manage their resources, cope with changes, and view their economic well-being, California participated in the NC-182 project. Data were collected from Kings and Colusa counties. Two hundred and seventy-five questionnaires were returned from the financial managers: 136 from Kings County and 139 from Colusa County. An additional 156 questionnaires (65 from Kings County and 91 from Colusa County) were received from the other adult in the household.

The financial managers ranged in age from 18 to 89; the other adults ranged in age from 19 to 80. Both had an average age of 50. Forty-six percent of the financial managers were male and 54 percent were female. As might be expected, 56 percent of the other adults were male and 44 percent were female. More than two-thirds of the financial managers had been married for an average of 23.5 years. The average household size was 2.5. Over half of the financial managers and other adults in the households were employed or self-employed. An additional 26 percent of the financial managers and 28 percent of the other adults were retired. The households had an average yearly income in 1987 of $27,280.

Overall, the respondents--both the financial managers and the other adults in the household--perceived that they were handling their finances well and were satisfied with the things they have and the way they were living. When asked about the extent to which they control their finances, 73 percent of the financial managers in Kings County and 62 percent of the financial managers in Colusa County were satisfied or very satisfied. There was even more satisfaction about the extent to which they control their lives with more financial managers in both counties (79 percent in Kings County and 71 percent in Colusa County) being satisfied or very satisfied.

As would be expected from past research, there was a general dissatisfaction with their ability to save and the amount they were able to save. However, when unexpected expenses occurred, many were able to "fall back" on savings to handle the emergency. In both counties, there was a large majority of respondents who had money problems at least occasionally. Forty-one percent of the financial managers in Kings County had money problems usually or most of the time while 19 percent had money problems occasionally. In Colusa County, 37 percent of the financial managers reported that they had money problems usually or most of the time with an additional 29 percent saying they occasionally had money problems. The remainder of the financial managers (40 percent in Kings County and 34 percent in Colusa County) reported that they seldom or never had money problems.

The problems identified by the greatest number of financial managers in both counties as occurring usually or most of the time included not being able to save; not having enough money for dentist, doctors, or medicine; and not having enough money for health insurance. The problem that was identified as least likely to occur was getting behind on the rent or mortgage payment.

The overall life satisfaction of this sample was high. Over half of the financial managers in both counties were generally satisfied with their ability to achieve and get ahead. They were also satisfied with the way they use their resources (61 percent) and the amount of their current debt (59 percent). Most felt they were in control of their lives and were satisfied with their marriages, housing, neighborhood and community.

The respondents were also asked how external changes in the community had affected their lives. These changes included employment conditions, businesses and people moving into and out of communities, increase in costs, and availability of community services. In general, if the respondents perceived a change was positive, they tended to perceive themselves as being better off; a negative change tended to be perceived as making them worse off. For this sample, two-thirds of the financial managers who perceived a negative change in cost of health care and availability of community services felt that the change caused them to be worse off economically. But, only one-third of the financial managers perceiving negative change in the number of persons seeking welfare and in the number of persons benefitting from farm support programs felt that change caused them to be worse off.

Few significant differences existed in the responses of the financial managers from Kings and Colusa County. In evaluating the results of this research, one needs to realize the limitations of the sample. While the questionnaires were sent to a randomly selected group of households, the persons who responded should not be regarded as a representative sampling of all the people in both counties or the state. In both counties the respondents had more education than the average person in the county, were somewhat older, and had incomes that were slightly higher than the means for each county. The sampling does reflect fairly closely the current racial mix of both counties.

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ARIZONA RURAL COUNTIES: A PROFILE

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This article looks at two rural counties in Arizona, Greenlee and Pinal, selected based on 20% of the population from each county employed in agricultural related jobs and distinguished based on economic progress as measured by change in per capita income. Pinal was identified as the county which had experienced relatively better economic progress. Two hundred ninety-six financial managers (157 from Greenlee and 139 from Pinal) comprise the sample.

Demographics

The financial managers average age was 48 in Greenlee and 50 in Pinal. Most reported at least a high school education. The financial managers were primarily white (Greenlee, 70%; Pinal 80%), followed by spanish, Native American and Black. Of the 296 financial managers, 52% were male and 45% were female. The average household size was 2.7. Sixty percent of the financial managers in Pinal county were either employed or self-employed as compared to 51% in Greenlee County. Nine percent of the managers in Greenlee County were unemployed compared to three percent in Pinal County. The median family income for both counties was in the $20,000-$24,999 range.

Financial Dissatisfaction

Fewer than 11% of the financial managers indicated dissatisfaction in any of six broad aspects (neighborhood, housing, community, lifestyle, control over life, control over finances) of their financial lives which they were asked to evaluate. The greatest number, nearly 11%, reported dissatisfaction with their ability to control finances. When looking closely at specific aspects of the controlling of finances, managers reported dissatisfaction with the amount of current debt (27.5%) and with their ability to save (42%). High levels of dissatisfaction was also expressed with the availability of resources for financial emergencies (37.6%), family's net worth (25%), and current total family income (23.1%).

Additionally, a large number of family financial managers indicated that their current income was insufficient to meet necessities (25.0%). When comparing their current financial situation with the past and with expectations for the future a greater number of managers reported that their family's financial situation was worse or much worse than five years ago (21.5%) as compared to those who expected their financial situation to be worse or much worse in the future (13.2%).

During the year previous to this survey, 18% of the financial managers in Greenlee County and 16% in Pinal reported that their household had experienced a loss of income. The time period for that loss averaged 16 to 17 weeks. Forty-eight percent in Greenlee and 52% in Pinal also reported experiencing an unexpected expense.

Financial managers from Greenlee County reported using money from savings (42%) or going without new clothes or entertainment (41%) when coping with loss of income or unexpected expense. Doing without was the most frequently reported strategy of financial managers in Pinal County. The next highest strategy was to use money from checking or money management accounts. Only a small number of financial managers indicated that they dealt with financial emergencies by not paying their bills (Pinal, 10%; Greenlee, 9%).

Community Changes

Numerous significant differences were found between the financial managers from Pinal and Greenlee in response to changes which occurred within their specific community. Greater numbers of financial managers from the Greenlee County reported worsening employment conditions (60%) and decreases in the numbers of businesses (70%). Financial managers from Pinal County were more likely to indicate that employment conditions had improved (28%) and that the number of businesses had increased (62%). Similarly, a larger number of managers from Greenlee County indicated that available community services had decreased (25%) than their counterparts in Pinal County (4%). While the greatest number of financial managers from both counties indicated that they did not know the contribution made by various educational resources, such as Cooperative Extension, a slightly higher number of managers from Greenlee County (20%) reported that educational resources had benefited more people in the last year than did their counterparts in Pinal County (13%). Financial managers from Pinal County were more likely to report that there was an increase in the number of people seeking welfare over the last five years (46%) and an increase in the number of people moving out of the community (66%) compared to financial managers in Pinal County (32% and 11%, respectively). Similar reports of increases in the cost of health care (80%) occurred in both counties. Impacts of these macro level economic issues were as would be expected. In general, if the macro economic environment was reported to have worsened then the impact on the family was seen to be primarily negative or to be reported as not have had an impact on the family.

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SUSTAINING/GROWING AND DECLINING RURAL AREAS IN MICHIGAN: PERCEIVED IMPACT ON RESIDENT

Dennis Keefe, Rosemary Walker, Connie Kratzer, Elena Avila, Michigan State University[1]

The purpose of this study is to compare selected aspects of the economic well-being of households in economically growing/sustaining and declining rural counties in Michigan.

METHODS

Missaukee (growing/sustaining) and Presque Isle (declining) were randomly selected from counties meeting the criteria used. Households in the counties were randomly selected by the R. L. Polk Company. Questionnaires were sent to 450 households in each county. Of the 845 which could have been completed 281 (33%) usable questionnaires were returned. The adult responsible for managing the household's finances was asked to respond to the questionnaire.

THE FINANCIAL MANAGERS

The financial managers of the households had the following characteristics: they were almost equally divided between men and women; about half of the sample was in the 21-45 age category; mean household size was 2.6; two-fifths had graduated from high school; their median income category was $20,000 -$24,999; 54% reported two or three sources of income; two-thirds were in their first marriage; and 96% were white. None of these characteristics showed significant differences by county.

PROBLEMS WITH FINANCIAL RESOURCES

On average, respondents indicated not often having financial problems meeting specific types of expenses. However, buying special things, saving, and affording doctor or dentist services seemed to be a problem more often than paying the rent or utilities. There were no significant differences by county in problems experienced meeting any of the expense categories.

PERCEIVED COMMUNITY CHANGES

Respondents were asked if they perceived some specific changes in their community in the last five years. For analysis purposes a +1 was assigned to responses which indicated an improving community condition, a -1 to a worsening community condition, and a 0 to those conditions where no changes were perceived or known about. In each county, increasing health care costs, numbers of persons needing support by welfare, and the cost of borrowing were perceived as the three characteristics which had deteriorated the most. In each county, the improved availability of educational and community services were rated favorably. There were significant differences by county in respondents' perceptions of changes in four community characteristics: employment conditions, whether or not people were moving into or out of the comunity, the costs of health care, and the number of persons seeking welfare. The sustaining/growing county scored more favorably on these items. To get an overall perception of change in the communities, the computed change scores were summed for each respondent and averaged for each county. While both counties' scores were negative, the mean for the declining county was significantly lower than the mean for the sustaining/growing county.

PERCEIVED EFFECTS OF CHANGES

Respondents were asked if the changes they had perceived in their communities had affected them. They could indicate that they were better off (scored as +1), worse off (-1), or not affected (0). In all areas for both counties, the average scores were negative, ranging from -.19 for changes in numbers of people seeking welfare in the better off county to -.62 for changes in health costs in the same county. The only areas where the two counties differed were in the perceived effects of changes in employment conditions and in availability of community services. Respondents in the declining county had significantly lower mean scores on these.

PERCEIVED CHANGE IN FAMILY FINANCIAL CONDITION

Respondents were asked if they felt that their family's financial condition was better off, much better off, worse off, or much worse off than it was five years ago. Twenty two percent of the total sample felt they were worse off, 39% felt they were better off, and 39% perceived no difference; no significant difference by county.

RESPONDENT SATISFACTION

Respondents were asked about their levels of satisfaction with various aspects of their lives. Because answers were skewed toward the satisfied end of the scale, resonse categories were collapsed as follows: very satisfied, +1; very dissatisfied, dissatisfied, or mixed feelings, -1; satisfied, 0. In only one area was there a significant difference between the means for the two counties. Respondents in the growing/sustaining county indicated they were less satisfied with their overall way of life than did the respondents in the declining county.

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RESIDENTS IN ECONOMICALLY GAINING AND DECLINING RURAL COMMUNITIES AND THEIR PERCEPTION OF CHANGES IN COMMUNITY AND IMPACT ON HOUSEHOLD'S FINANCIAL SITUATION

Tahira K. Hira, Iowa State University

Of the total eight states involved in NC-182 Family Economic Well-Being Project, six contributed to this presentation. These included Arizona, California, Iowa, Illinois, Michigan, and Minnesota. In each state, data were collected through mail survey conducted in two rural counties, one economically inclining and the other declining. In each state, approximately 300 households responded to the survey. This workshop focused on responses provided by the money managers only in the household.

Slightly over fifty percent of the respondents in all states were females, in Illinois the majority were females (60%). Most of the respondents were married, and had been married for over 20 years. The average household size was 2.5. A large majority of the respondents in each state were white, over 90 percent in midwestern states, and over 70 percent in Arizona and California. Most of the respondents had high school education and well over half in every state were employed or self employed.

Average household income varied from $27,000 in California to $16,000 in Illinois. Majority of the respondents in each state indicated their current income was adequate. However, 20 to 25 percent of the respondents indicated their current income was not adequate for their needs. Majority of the households in each state received their income at the same time each year and the amount of income received each year was also same. For approximately two-thirds of the respondents, wages were the main source of income. Respondents in the survey felt they were financially better off as compared to five years ago.

Descriptive statistics on selected socioeconomic characteristics and attitudes regarding income adequacy do not differ greatly between two counties in a state or among states. Recognizing the fact that this is a preliminary look at the data, it may be concluded that rural residents in the region are a homogeneous group.

The other aspect of resident profile provided information on various financial problems faced by households. Generally speaking residents of both declining and inclining counties did not have problems meeting expenses related to housing, utilities, transportation. However, a small proportion (20%) "seldom" or "occasionally" did not have enough money to pay for clothes or shoes, and to purchase adequate insurance coverage (health and other type of insurance). Two areas in which larger proportion of respondents reported having problems "more often" were not able to save and not enough money for health care needs. Approximately one-fourth of the respondents in each state indicated having these two problems. The responses to this part of the survey did not vary greatly between counties or among states as was expected.

A large majority in every state (80% or more) reported cost of health care had increased and also felt that their financial situation was effected negatively by the increase. Between one-third and one-fourth of the respondents indicated that cost of borrowing had increased and it was difficult to borrow for business and personal reasons.

Larger proportions of respondents in Arizona and California than respondents from midwestern states reported that employment conditions had worsened, number of people moving in and seeking welfare had increased, whereas availability of educational and community services had decreased. Between 10 to 15 percent of the respondents in all states indicated that there was a decrease in farm support programs, but majority reported it did not effect their households. Generally speaking, majority of the respondents did not know what kind of changes had occurred in their communities, and majority also did not think that their household's financial condition had been effected by changes in the community. In most cases differences between counties within a state were not very pronounced.

Satisfaction level of financial managers did not differ based on the economy of the county or the state in which they resided. Most were satisfied with neighborhood, community, housing, amount of material things they owned and the way they lived. Generally speaking fewer respondents were satisfied with control over their finances than with control over their lives. Areas in which larger proportion of money managers were dissatisfied were related to household finances. These areas included family income, net worth, amount of current debt, resources available for financial emergencies and ability to save. The largest proportion of dissatisfied respondents in each state were in the last two areas.

These results should be helpful to Cooperative Extension and other educators in family resource management area. Programs should focus on areas such as saving for emergencies, handling expenses for medical care, health insurance and debt management. Professionals working in this area may emphasize on helping people in learning how to gain more control over their finances. Rural development specialist would find the perceptions concerning negative change in communities and their effect on households useful in targeting areas for improvement in rural communities.

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Meet the Professionals: How to Get Your First Job
A Summary of the Session

Jane Kolodinsky, Ph.D.*

The following is a summary of the presentations given by Cynthia Fletcher, Iowa State Extension Service, Lonnie Carver, Louisiana Power and Light, Robert Weagley, University of Missouri, Pam Norum, University of Missouri, and Yan Wang, The World Bank.

JOBS IN EXTENSION

- I. What is Cooperative Extension?
  - A. Land Grant Universities have 3 functions
    - 1. course and curriculum
    - 2. research
    - 3. extension/outreach
  - B. The Family and Consumer Economics Extension Component of Extension
    - 1. Bachelor Degree--county level
    - 2. Master's Degree--regional offices
    - 3. Ph.D. State/University level
- II. Preparation for a Career in Extension
  - A. Moving toward requiring masters degree at all levels
  - B. Coursework
    - 1. basic economics
    - 2. finance
    - 3. family economics
    - 4. consumer studies
    - 5. feel for research
      - a. both analysis and interpretation
      - b. thesis option for masters
    - 6. written and oral skills
      - a. journalism courses
      - b. need to work with varied audiences
      - c. interpersonal communication skills
      - d. teaching skills
  - C. Previous experience is important
    - 1. summer employment
    - 2. Practicum/internship
  - D. Job Seeking
    - 1. Available at Land Grant Institutions
      - a. centralized personnel office
      - b. job openings circulated throughout the system
      - c. local college placement office
      - d. NETWORK WITH SOMEONE IN SYSTEM
    - 2. Jobs are available year round

BUSINESS SECTOR--PUBLIC UTILITIES

- I. Working in the business sector
  - A. Background working with people
  - B. Experience in the consumer area important
  - C. May have to start at the bottom and move up
  - D. Good to combine knowledge of consumer and producer side of the market
    - 1. design and develop information brochures
    - 2. writing and presentation skills impt.
    - 3. be active in a professional organization
  - E. Business may pay for higher degree--can start with bachelor's degree
  - F. Be flexible when taking your first job
    - 1. consumer affairs
    - 2. public relations
    - 3. consumer liaison
    - 4. marketing
    - 5. consumer outreach
  - G. Benefits of working in business
    - 1. salary
    - 2. Don't forget to check out the benefits plan
  - H. Long hours are a drawback
  - I. Resumes
    - 1. don't put down a specific job
    - 2. Include a cover letter
    - 3. KEEP CALLING

ACADEMIC POSITIONS

- I. Necessary skills
  - A. Ability to communicate
  - B. self confidence
  - C. Ability to accept responsibility
    - 1. should show on resume
    - 2. Do more than just coursework
      - a. involvement in organizations
      - b. student activities
      - c. part time work
  - D. flexibility
- II. Planning
  - A. Where do you want to spend 75,000 hours of your life?
    - 1. List what you have done--good and bad
      - a. better at research or teaching?
      - b. look at positions splits
      - c. match skills to position
    - 2. Consider broadening scope with choice of minors
      - a. don't put all eggs in one basket
  - B. Start job search process at least 12 months before graduation--before that with networking
    - 1. Meet appropriate professionals
    - 2. Go to professional meetings
    - 3. Identify a mentor for support
  - C. Invest in the Job Process--clothing and resume (but don't spend too much on resume)
- III. The Job Interview
  - A. Record information about job during interview

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*Chairperson, Job Opportunities Committee, University of Vermont

        1. be an active participant
        2. Take some control over the process
    B. Rejection--don't sell yourself short
        1. ask why you didn't get the job

ACADEMICS--THE DUAL CAREER PROBLEM

I. If you are looking for a job with another person, you might have to look for one outside your major area.
    A. Strategies
        1. Decide on one person getting a job and let them look.
        2. Both look--whoever gets the best job takes it and the other keeps looking
        3. Have both persons take the best job--may have to live apart.
        4. Some combination of the above
    B. The key factor is FLEXIBILITY
        1. Cross training--choose minors carefully. Which will make you flexible?

II. Job markets
    A. Economics--Allied Social Science Meetings in December
    B. Marketing AMA Educator's Conference--Aug.
    C. Agricultural Economics--AGEA-August
    D. Human Development--NCFR
    E. Merchandising/Retailing AFPTC October
    F. Consumer Issues-ACCI Spring

III. Marketing a Flexible Package
    A. Remember the 4 P's
        1. Price
        2. Package
        3. Promotion
        4. Place

    What is your product? What do you have to offer? What makes your package different from all the others? Why should they hire you if you do not have a major in the area?
    B. Identify your general skills that are transferable to any job
        1. critical thinking ability
        2. communication skills
        3. decision making
        4. leadership
        5. management and organization
        6. facility with numbers
    C. Identify specific skills
    D. Identify areas related to your major area

IV. Minors and Electives
    A. These play an important role
        1. personal finance
        2. marketing
        3. Consumer policy
        4. nutrition
        5. retailing
        6. accounting
            a. These are adaptable to consumer goods companies and major retailers

V. Opportunities outside the classroom
    A. Organizations
        1. Join the organizations most closely aligned with your major and minor
    B. Networking
        1. Speakers in your department
        2. Professional organizations
        3. advisory board members
            a. BE SURE TO INTERACT!!
            b. These can:
                1/ increase field of knowledge
                2/ improve communication skills
                3. provide useful contacts

ACADEMICS--POST DOCTORAL OPPORTUNITIES

I. Fellowships
    A. Broaden your field of interest--minors
    B. Try to have some publications before graduation
    C. Pros and Cons
        1. gives time for research
        2. lose contact with support system
    D. Possibilities
        1. Rockefeller fund
        2. Ford Foundation
        #. World Bank
    E. Proposal is the key to any fellowship
        1. Learn writing skills

THE CONSUMER MOVEMENT IN THE 1990s: IMPLICATIONS FOR RESEARCH

Stephen Brobeck, Consumer Federation of America

The topic, the future of the consumer movement, is not an easy one to address. There are so many variables which interact in such complex ways that we cannot be certain what will happen. I have been reminded of this difficulty in preparing a bibliography on the consumer movement. This literature is littered with the corpses of articles that ventured predictions which have not been fulfilled. One report by two highly regarded researchers, for example, argued that during the last 25 years of this century, consumerism would disappear. I myself became more careful about making predictions after giving a speech, featured in a 1981 Associated Press wire story, that suggested it was highly unlikely the inflation rate would return to single digits in the near future. So why do we continue to try to speculate about the future? There are many reasons. Perhaps one is that there is so little accountability.

What is more useful in helping us understand the future of the consumer movement than making bold predictions, however, is identifying the key variables that will shape this future and examining how they have interacted in the past. That can give us a better understanding of the range of outcomes and those most likely to occur.

From my experience in and research on the consumer movement, it seems that two sets of variables are important. One is the condition of the movement, especially its level of resources and its willingness to address pressing consumer concerns. The second set includes external conditions, particularly general economic conditions and support, opposition, or apathy from political leaders, business, and the public.

To what extent do these factors help us understand changes in national consumer groups -- that part of the consumer movement about which the most is known -- over the past 15 years? Research by Herrmann and Warland, by Mayer, and by Smith and Bloom have documented the declining influence of the consumer movement in the late 1970s and early 1980s. This decline can be seen in press coverage. As Smith and Bloom have shown, between the early 1970s and early 80s, there was declining coverage of the movement in the New York Times. As I have discovered in my own research, this coverage reported the rise and fall of consumer movement influence in Washington. Headlines of major newspaper articles tell the story. In the New York Times, in 1969 a headline read, "Consumer Indignation"; in 1972, "New Groups are Serving as Watchdogs for Consumers"; in 1976, "Public Affairs Groups, Now on the Outside, Expect Access"; in 1978, "Consumer Leaders, in Reappraisal, Seek New Consumer Initiatives"; and in 1983, "The Consumer Movement: Whatever Happened."

Coverage of the movement's dominant figure, Ralph Nader, paralleled that of the movement as a whole. Here also the headlines revealed the content of news articles. In the New York Times, in 1966, "Car Safety Crusader: Ralph Nader"; in 1979, "Nader Expanding Consumer Efforts"; and in 1982, "A Subdued Nader Works to Organize Consumers." In Business Week, in 1969, "Crusader Widens Range of His Ire": in 1972, "Ralph Nader Becomes an Organization"; and in 1979, "A Fading Ralph Nader Rewrites His Strategy."

Public opinion surveys also suggest a loss of public support and influence. In the early 1970s, Gallup found that Nader was one of the ten most widely admired Americans. By 1976, when Lou Harris conducted his first consumerism survey, he learned that Nader's support had declined but was still strong. Yet by 1982, in his second survey, Harris discovered that this support had declined significantly: Fewer than 40% of respondents regarded Nader highly.

An even more important gauge of the consumer movement's influence is success in achieving its most important policy objectives. In the 1970s, for national groups and for Nader the most important priority was persuading Congress to pass legislation establishing an independent consumer protection agency. They failed. In the 1980s, for Nader and his network of organizations, the most important goal was to establish, at national and state levels, citizen groups funded by check-off mechanisms. Only a few bonafide organizations of this type were ever set up, all citizen utility boards (CUBs). But when in 1986 the Supreme Court restricted the access of the CUBs to utility mailings, they lost most of their funding and clout.

This decline in influence can be explained in terms of the condition of the consumer movement and external conditions over which it had little control. Much has been made of the loss, to the Carter administration, of several of the movement's most effective leaders. And there is no question that the departures of Carol Tucker Foreman from the Consumer Federation and Joan Claybrook from Congress Watch weakened both organizations. Yet, many talented and energetic leaders remained -- Kathleen O'Reilly at CFA, Mark Silbergeld at Consumers Union, Sid Wolfe at Health Research Group, Alan Morrison at the Litigation Group, Mike Jacobson of the Center for Science in the Public Interest, Clarence Ditlow of the Center for Auto Safety, and Nader himself, to mention only a few. With the most supportive President and Congress in nearly a decade, and their former colleagues, especially Esther Peterson, holding important leadership positions, why did they not accomplish more?

One critical factor is that their goals were not strongly supported by most consumers. What consumers want most from advocates is protection against specific marketplace threats such as rising bank fees and utility rates, unsafe cars and children's products, and fraudulent television and home repair services. In the 1970s, what national advocates focused most attention on was the establishment of a new federal agency to help ensure that other federal agencies considered consumer interests in their decisions. In part because of growing skepticism about the effectiveness of the federal government, which ironically was fed by earlier reports of Nader Raiders, there was little enthusiasm for this agency outside Washington. Members of the Cleveland consumer group I was coordinating could not have cared less. What national consumer leaders forgot is that the public backs only the creation of new government agencies, such as local protection officesor the National Highway Traffic Safety Administration, which offer promise of preventing or solving their own individual problems.

A second important factor is the funding problems experienced by national groups in the late 1970s and early 80s. In 1982, Consumers Union had a serious, and well-publicized, financial crisis. It was forced not only to cut back support for its three advocacy offices, but also to reduce contributions to other organizations such as the Consumer Federation of America and Center for Auto Safety. At CFA, this reduced support slowed recovery from an earlier crisis in 1979 and 80 when organizational revenues had fallen to $200,000 annually and cashflow problems occurred regularly. The same year, Public Citizen, which was supposed to raise funds for other Nader-related organizations, reported net revenues of under $1000.

There is no question that inexperienced or inattentive management had something to do with these funding problems. Yet, these difficulties largely reflected the condition of the economy and other external factors. Most important was the stagflation of the late 1970s and recession of 1981 and 82. Rising prices increased the costs of, and the recession depressed revenues from, Consumers Union solicitationsfor subscriptions and Public Citizen solicitations for contributions. The latter probably also declined because of the growing public perception that national advocates, especially Nader, were pursuing their own agenda, not that of most consumers. Also, the Reagan Administration virtually eliminated all federal grants and contracts to consumer groups. Organizations as diverse as the Community Nutrition Institute, which was funded principally by the Community Services Administration; National PIRG and ACORN, which received VISTA grants and volunteers, and National ConsumersLeague and Consumer Federation of America, which depended somewhat on U.S. Office of Consumer Education grants and contracts, lost important resources.

The opposition of the Reagan administration to the objectives of consumer advocates, usually federal intervention of some sort, threatened more than just funding sources. Agencies such as the Consumer Product Safety Commission and National Highway Traffic Safety Administration that advocates had worked so patiently to create and fund were turned over to anti-regulation administrators who halted or slowed rule-making, reduced enforcement activity, and supported substantial cutbacks in funding. In the 1980s, for example, the budget of the Consumer Product Safety Commission in constant dollars declined by 50%. Moreover, the administration rarely backed consumer movement initiatives in Congress.

Of course, during the Carter administration, the ardor of Congress for consumer reforms had cooled considerably, as has been documented by Pertschuk. Congressional leaders increasingly began to realize that, when consumer advocates pursued goals not strongly supported by the public, they were paper tigers. Without public outrage, or at least widespread irritation, and related press criticism, senators and representatives had little to fear from the threats of advocates. It was this growing realization that led to diminishing Congressional support for a consumer protection agency. Despite a Democratic administration and Congress, there were even fewer major consumer bills passed than during the previous eight years of Republican Presidencies.

Beyond its lack of enthusiasm for a consumer protection agency, the public was growing increasingly preoccupied with financial and job security and more accepting of the conservative and corporate arguments that consumer regulations carried unacceptable price tags. Without strong public support, consumer advocates were unable to counter the great influence of a business community that had united against the consumer protection agency bill. After defeating this proposal, the same coalition mobilized against the aggressive advocacy of the Pertschuk-led Federal Trade Commission and persuaded Congress to severely curb its activism.

Nader's nadir was probably in 1986, when the Supreme Court restricted his check-off mechanism and he experienced several personal crises. Nevertheless, in this period, national groups were strengthening themselves institutionally and finding greater support in Congress. One indication of Congressional receptivity was the increasing number of times committees asked consumer advocates to give testimony. Even clearer evidence was Congressional passage of consumer initiatives such as consumer banking reforms, appliance efficiency standards, and prohibitions against physician self-dealing. More widely reported by the press was the passage in 1988 of radical insurance reforms by California voters. Their approval of Proposition 103, fiercely opposed by the insurance industry, signified that consumers still looked to Nader for leadership when their welfare was threatened.

Even if press coverage of the consumer movement was not much more extensive than earlier in the decade, stories were more likely to recognize Nader's influence and that of the movement. In 1989, Business Week, Fortune, and the New York Times all ran laudatory stories on Nader and other advocates. These articles were titled, respectively, "The Second Coming of Ralph Nader," "The Resurrection of Ralph Nader," and "Nader, After

Eight Years, Is Back on the Inside." The same year, Changing Times printed a feature article on the consumer movement that answered the question, whatever happened to the consumer movement? with a report on the movement's growing strength and advocacy.

The condition of the consumer movement and certain external conditions explain most of the movement's resurgence. Forced to focus more attention on management and fundraising than on advocacy, in the early 1980s national consumer leaders cut costs within their organizations and developed new revenue sources. Consumers Union sold their fulfillment division, which housed nearly one-third of the organization's employees, laid off other staffers, and reduced the paper quality and length of Consumer Reports. They also organized highly successful campaigns to raise funds for their advocacy offices and for a new building. CFA moved up 14th Street to a low-rent neighborhood and began to generate tens of thousands of dollars from the sale of publications and conference registrations. Public Citizen turned its direct mail operation over to professional fundraisers and enjoyed increased success selling publications.

The financial reports of the three organizations reflected these cost-cutting and income-producing measures. In the 1980s, Consumers Union's annual revenues increased nearly 100% in current dollars. More importantly, it began generating multi-million dollar surpluses, a portion of which it used to fund state and local groups, through the Consumer Federation, and Third World consumerism. CFA's budget increased from $200,000 to more than $800,000 in current dollars, and its reserve fund from nothing to over $300,000. Although Public Citizen experienced growing pains in 1986 and 87, in 1988 and 89 the sale of a new book on pills netted the organization over $2 million. In the same period, single-issue organizations such as Center for Science in the Public Interest and Center for Auto Safety were also growing stronger financially.

More effective management and entrepreneurship than in the 1970s were not the only reasons, however, for the improving financial condition of most consumer groups. Slow but steady economic growth after 1982, which benefitted mainly the financial supporters of the movement, contributed substantially to increasing Consumer Reports subscriptions, Public Citizen contributions, and sales of books and other products by many organizations.

Economic improvement, particularly the decline of the unemployment rate, heightened consumer interest in consumption-related issues. Consumer advocates were responsive to these growing concerns. Rather than try to serve consumers reheated policy proposals from the 1970s, advocates presented them with a new menu of reforms. Several entrees appealed to reawakened consumer appetites. Most popular were proposals for auto insurance rate reductions. Also appealing were measures to provide consumers with additional information about a whole array of products. Encouraged by advocates, Congress passed legislation requiring additional disclosures from banking institutions about the terms of credit card and home equity loans and is soon likely to approve new truth in savings requirements.

Also, advocates have found that the Bush administration is more willing to consider intervening in private markets than were Reagan regulators. Recently the secretary of Health and Human Services announced that the Food and Drug Administration would be developing rules for nutritional claims made by food advertisers; the head of the National Highway Traffic Safety Administration declared his intention to seek side-impact crash standards; and the chairperson of the Federal Trade Commission indicated her agency would investigate products making environmental claims.

The deregulation of several industries also increased the influence of advocates in these areas. Although activists complain about growing consumer confusion and discrimination against the poor resulting from deregulation of banking and telephone industries, this deregulation has not only presented them with new issues, but has also given them more political leverage. By increasing competition within the financial services and telecommunications areas, deregulation has provided advocates with opportunities to bargain with competing industries who wish to increase the credibility of their policy proposals. In 1988, consumer lobbyists persuaded bankers to accept consumer protections in Senate legislation in return for support of expanded bank powers, which were opposed by insurers and investment firms. At present, the Consumer Federation and the American Association of Retired Persons are allied with cable companies, newspaper publishers, and long distance carriers to try to block expanded powers for Bell companies. Yet, CFA is also leading consumer efforts to reregulate the cable industry.

While the consumer movement is stronger institutionally, more powerful in Congress, and more credible with the public than it was a decade ago, it still does not have the public and policymaker support that it enjoyed two decades ago. But this is the fate of nearly all social movements, especially those that have been successful. The initial enthusiasm of activists and the public cannot be sustained. As a compensation, however, consumers are better able to protect themselves today than in 1970. Most importantly, they are more aware of themselves as consumers with interests that are separate from those of sellers and with rights that are enforceable in their dealings with these vendors.

To summarize, the influence of the consumer movement has reflected both its own condition, particularly funding levels and its willingness to address specific consumer concerns, and external conditions such as the condition of the economy and support or opposition from policymakers, business, and the public. I would argue that it is principally these factors that will shape the development of the consumer movement in the coming decade.

I had originally intended to discuss consumer issues of the 1990s. Although predictions about these are also speculative, I could have at least informed you what issues CFA and other national consumer groups plan to work on in the next couple years. I would have identified three dynamic forces in our society -- technology, deregulation, and the environment. I would have associated increasing concerns about privacy, product safety, and rising health care costs with the implementation of new technologies; consumer confusion, discrimination against the least affluent, and increasing concerns about physical and financial safety and soundness with economic deregulation; and domestic resource depletion, pollution, and global warming with the environment. Unfortunately, this discussion takes time, so I can only refer you to my article, published in the fall 1989 issue of Mobius, that examines many of these issues.

Let me conclude by discussing some implications of my earlier analysis for research on the consumer movement. This interpretation is generally consistent with explanation of the rise and fall of consumerism in terms of underlying social conditions and political entrepreneurship. However, unlike other analyses, it stresses the influence of economic conditions on political and financial support for the movement. Like Mayer's superb study of the consumer movement, my analysis suggests that the failure of national groups in the 1970s reflected in part their "radical" emphasis on redistribution of power, a goal that Nader pursued throughout the 1980s, and parenthetically, can be linked historically to both the cooperative and New Left movements. I would suggest, however, that Mayer's reformists are a diverse group that includes both conservatives and liberals. Conservative reformists stress improvements in the efficiency of markets through increased information. They are most comfortable advocating improved consumer education, expanded product-testing and evaluation of consumer services, and required disclosures. Liberal reformists, on the other hand, are more concerned about exploitation and discrimination, especially against the poor, that invariably are found in capitalist economies. Accordingly, they emphasize government interventions to prevent and redress fraud, and to ameliorate structural discrimination in free markets. Specifically, they address pricing of insurance, banking, telephone, and energy services where the poor are often forced to pay higher prices (or costs) than are other consumers. Their solutions involve government subsidies or government interventions where there is minimal disruption of markets. While many advocacy groups support both conservative and liberal consumer reforms, there is a continuum here on which organizations can be placed -- perhaps with Washington Checkbook at one end and the National Consumer Law Center at the other.

My analysis also argues, unlike earlier research, that the consumer movement has experienced a revival recently. Public and political support for movement goals has increased, though not to earlier levels, and national groups have never been better funded or more stable. This is not to say that all groups are strong -- some are not. Yet, as I have argued elsewhere, one of the great strengths of the movement is its institutional diversity, entrepreneurial orientation, friendly internal competition, and willingness to cooperate to achieve common objectives.

Lastly, my analysis has reported data that has not been cited in earlier research. Information on the financial condition, politics, and press coverage of the consumer movement may be useful to future studies of the subject. Most sources of this information will be listed with annotations in a bibliography I am completing that is to be published by G.K. Hall this fall.

Given this deadline and others, I have not had time to refine this analysis as much as I would have liked. But I hope that its data and hypotheses are helpful to those of you researching the consumer movement.

In closing, I would challenge you to build on the solid foundation of research on the movement laid by Mayer, Herrmann, Friedman, and others. I see two especially important research needs. To elaborate and test the generalizations of earlier research, we need more empirical studies -- monographs on individual organizations, biographies of consumers leaders such as Esther Peterson and Rhoda Karpatkin, and case studies of the making of consumer policies, which focus on both national and grassroots organizations. We also need additional research on the social and economic impacts of these policies. Even taken together, the biased analyses of advocates and their opponents at the American Enterprise Institute and Heritage Foundation rarely reveal the actual effects of consumer regulations. We need more studies like those of Dardis and her Maryland colleagues on the costs and benefits of product safety regulations. As importantly, we need good research on the impacts of consumer regulations related to new technologies, deregulation, and the environment. And like Mayer, we must consider the distributional impacts of these interventions. This is an ambitious research agenda. But it is one that you are well-qualified to undertake. I wish you well and promise to help in any way I can.

CONSUMER AFFAIRS IN THE NINETIES
IMPLICATIONS FOR EDUCATION & RESEARCH

Peggy H. Haney, American Express Company[1]

Thank you very much for inviting me to speak with you today. I'd also like to thank Steve Brobeck for stimulating my thinking about the role of consumer affairs in business in the 90s when he asked me to speak to his Consumerism class at Cornell last fall.

There's nothing like a group of bright students staring up at you to bring you back to reality. I admire those of you who do this on a day-to-day basis!

In refocusing my thinking to the topic for today, I believe it is useful to first project what consumer affairs in the 90s will be like for those of us who represent this profession in business.

But, before projecting the future, I think we need a common understanding of the roles played today. Each role supports in some way at its core: representing the consumer interest to the company -- a similar mission as stated by the very title of your organization, the American Council on Consumer Interests.

As you know, consumer affairs professionals perform their functions in a variety of niches within the corporation. SOCAP, The Society of Consumer Affairs Professionals in Business, has identified five general areas of member involvement:

1. Consumer Communications
2. Consumer Information & Education
3. Consumer Issues & Trends -- usually reporting to senior management
4. Consumer Liaison, and
5. Consumer Representation -- that is, representing consumers' views to management and management's point of view to consumers.

SOCAP's stated fundamental mission is to enable the individual consumer affairs professional to improve the policies, products and services of his/her company. In other words, to improve the marketplace for consumers by addressing consumer concerns within the corporate structure. As most of you know, SOCAP was created in 1973 in recognition of the fact that a new and unique profession was emerging in corporate America.

Today, SOCAP has over 2,500 members representing more than 1,400 companies -- from the huge multi-nationals to the small and mid-sized -- with 24 chapters and three international allied societies in Canada, Italy and the United Kingdom. Consumer affairs professionals in business represent a powerful force for change for our society and world -- as do ACCI members, consumer advocates and government representatives.

A major goal of ACCI is to provide the information and education that will enable consumers and the market economy to function more effectively. And, a major goal of CFA is to advance pro-consumer policy before Congress, the executive branch, regulatory agencies and the courts. It's time we more fully realize our potential by working together to understand, advocate, inform, and seek resolution of the pressing issues in our society. Together, our possibilities are boundless.

A freer flow of information, experience, and wisdom could contribute immeasurably as all of us try to work more effectively in the consumer interest.

Perhaps, before we try to join hands and skip off together, it would be worthwhile at this point to consider what is meant by the consumer interest. For that I turn to a friend and one of your colleagues, Scott Maynes, for help. In his forward to the proceedings of the July, 1987 Wingspread Conference, Scott notes his definition. He states that,

> "...the consumer interest consists of 'those policies, practices, institutions, ideas of which most consumers would approve were they

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[1] Vice President - Consumer Affairs

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> fully informed and fully understanding.'"[2]

Scott also quotes James Morgan to expand on that definition. Morgan says that the consumer interest consists of two concepts:

> "1) Cost-benefit assessments of proposals or institutions as a means of assessing 'efficiency,'
>
> and
>
> 2) Considerations of 'fairness'..."[3]

Scott goes on, but the point he comes to -- which is probably why the various branches of consumer affairs professionals have not worked together more closely in the past -- is that the consumer interest is often a very complex balance, and we never have enough information to fully understand the short- and long-term implications adequately.

Whether an issue is complex or straight-forward, deciding what is fair, what is cost-efficient, and for whom, is very difficult. And, when our sources of information are very different, it can be quite difficult to find the balance necessary for workable compromise. It is my experience that those of us who try to define the consumer perspective -- whether in business, academia, government, or advocacy -- come at this task with good intentions. But, when our information and experience cause us to understand information differently, then we may end up with very different conclusions.

Differences notwithstanding, the point I am leading to is that we are long overdue in becoming real partners in representing the consumer interest. The issues are too important for us to speak just to ourselves. There is a need for dialogue, for each of us to contribute to the discussion to better understand what is: cost-efficient, fair, and that which consumers (if they fully understood) would approve. By virtue of your inviting Steve Brobeck and me here to speak to you today, I believe most of you would agree that one of the agenda items for the 90s is how to make this cooperation a reality. I will begin to address this by looking at some of the issues we face as a society. These are some of the issues that will define the playing field for consumer affairs professionals in business. In developing my list, I first looked over your program, and noted that many of the topics you are dealing with this week relate to the issues we are dealing with at American Express. A quick browse through a recent issue of MOBIUS,[4] the professional journal of SOCAP, and a check of a few other sources helped me to identify a list of six key issues for the 90s:

1. Aging & Health Care
2. Environmental Protection
3. Financial Services Regulation
4. Globalization
5. Privacy & Telecommunications
6. Product Safety/Service/Quality Improvement

AGING & HEALTH CARE

I begin with our aging society. You are probably aware that the last baby-boomers turn 50 in the year 2011. That is, of course, the age at which they qualify for membership in AARP -- an organization whose membership is currently in excess of 30 million.

The aging population will have tremendous influence on how we use our resources as individuals and as a nation. Their needs and their political influence will dominate discussion of many related issues, such as health care access and costs, product safety, and housing, to name a few. Many industries are trying to come to terms with how to profitably and fairly provide the services which we will not be able to expect government to provide, and too many individuals will be unable to provide from their own resources. The question of what is cost-effective, fair, and would be approved of by consumers if they were fully informed, is difficult indeed.

At American Express, one effort to serve this market is to provide a long-term care insurance policy through our Amex life subsidiary. We are one of the few pioneers in this area. There is much to know if we are to communicate clearly, provide fair protection at an affordable price, and not be surprised by customer claims when the bills begin to come due.

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[2] The Frontier of Research in the Consumer Interest, ed. E. Scott Maynes, (Columbia, Missouri: American Council on Consumer Interests, 1988), 4-5.

[3] Ibid.

[4] MOBIUS, "Consumer Agenda for the 90's," Volume VIII, Number 4 (Fall 1989).

I was on a panel last week at The Wharton School with a gentleman (Lloyd Lewis) who is the Executive Director for the Kendal corporation, a non-profit organization that builds continuing care retirement communities around the country. He noted a startling statistic that provides real impetus for finding ways to finance more of the types of continuing care communities he builds.

He said the one factor he has been able to isolate to explain why people in his communities live an average of 14 years vs. 8 years in comparable communities is the level of health care provided.

I believe there must be a great amount of information that could be provided by educators and researchers to expand this type of idea, and find the other ideas we will need to effectively care for the more poverty stricken elderly who will have nowhere to go but onto the streets with the homeless.

ENVIRONMENTAL PROTECTION

Here, of course, we are only beginning to see the vast problems. We need to change consumer behavior. We need to influence governmental policy, and, we need to change business practice. To think through our responses to environmental problems, we need to understand issues from the perspective of consumer behavior, consumer economics, and consumer marketing.

Our future depends on identifying key consumer behavior and consumption patterns that must be responsive to problems of energy consumption, acid rain, ozone depletion, ocean pollution, deforestation, over-population and all the related problems that go with them.

While consumers are beginning to have a heightened awareness of environmental issues, and great preparations are being made for Earth Day on April 22, there is much confusion in the marketplace. Consumers are saying, "Is this product really biodegradable; and is it worth the extra cost if it is?"

Janet Steiger, Chairperson of the FTC, stated at Consumer Federation of America's recent Consumer Assembly, that a major FTC program will focus on deceptive advertising and "green ads" which claim that products are environmentally safe.

Consumer affairs professionals, where they exist in companies dealing directly with environmental issues, will have to rely on scientific and behavioral research that you, among others, can provide to assist decision makers in finding the right compromises, and knowing when to say, "there is no compromise."

Senior management is usually persuaded when adequate evidence is presented about how potentially costly problems can be prevented. And, many are realizing that the potential for negative bottom-line impact is immense when the company's image is tarnished.

While certainly the CEO of a company determines whether you can operate at all, most consumer affairs professionals can influence how their mission is defined. And, through personal influence skills, provide information that is seen as valuable to senior management.

For consumer affairs professionals to work effectively in such an environment, we need resources, such as ACCI members, who can help us to clarify the consumer interest in complex issues. We also need to better understand how to deal more effectively at the policy-making level to make sure we're invited into the decision-making arena. I'll speak more about these personal factors later.

FINANCIAL SERVICES REGULATION

Access to financial services and consumer education are just two of the many financial services issues which need further study. As part of our "Forging Joint Ventures" study, we asked public interest, government and financial industry leaders to identify their priority issues. Not surprisingly, there was a striking overlap of issues. For example, the adequacy of regulation of financial service institutions and the potential for re-regulation; the effects of bank mergers and interstate banking, including a decrease in local service and community reinvestment; regulation of financial planners; and affordable housing and mortgage rates.

Insurance has been in the news a lot over the last few years, particularly with regard to property and casualty insurance, but life insurance holds much uncertainty as well.

IDS financial services, our Minneapolis-based financial planning subsidiary with a large life insurance component, released a report last week titled, "Will the U.S. Life Insurance Industry Keep Its Promises? -- Solvency Issues in the 1990s". The report notes a lack of liquidity in the assets of a number of large life insurance companies -- a cause for serious concern. Questions addressed in the report include:

- What is the likelihood of an insolvency problem in the life insurance industry?
- Is the regulatory structure in place to prevent an insolvency problem? and
- If a major insolvency occurs, how effectively will the industry respond?

IDS is striving, at these very early stages of problem identification, to prevent a crisis, potentially of proportions similar to the savings & loan crisis, from developing.

Our role as consumer affairs professionals at American Express will be to work with others who are already active, or who should become active, to look constructively at the issue and find plausible regulatory solutions. Among those to whom we will look for advice will be consumer academics and advocates who can bring additional light and clout to the issue.

There are many opportunities for family economists to look at the effects on families of the changes which have resulted from financial deregulation over the last decade, and to project impact of the changes now being promulgated in Congress.

GLOBALIZATION

Morita and Ishihara, in their controversial book, "The Japan That Can Say 'No'" assert that Japan must revolutionize its consciousness and take its rightful leadership role in the world as the West cedes influence to the East. They say that,

> "The American economy is an economy without substance ...American business is shifting toward a symbol economy...that business...must add value and wisdom to things and this is what America seems to have forgotten."[5]

Do consumer academics have opinions we in the business community can use to be of influence on these issues? How does our transformation into a service economy affect consumers? What is the consumer interest here? And which consumer are we talking about, the U.S. or global consumer?

Kenichi Ohmae, Managing Director of McKinsey & Co. in Tokyo, writes profusely in books and in Harvard Business Review articles that the triad market, that is Europe, Japan and the U.S. are becoming one market. But he quickly clarifies that they remain very separate in interpretation of specific consumer needs.

There is much we need to know about these developments, not necessarily from a marketing perspective, but from a consumer interest perspective. Most consumer affairs professionals in business work closely with customers, monitoring and analyzing complaints and inquiries. Having a different framework for analysis -- a more culturally relevant screen -- will help put these communications into a different perspective and help shape the products and services provided. We need your assistance here.

Another familiar example where globalization affects the consumer interest is in foreign trade. Barriers to free trade are an ever-present problem. This is an issue, of course, where the consumer interest is defined by where you sit, or rather, where you work!

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[5] Shintaro Ishihara, Akio Morita, The Japan that Can Say "No": The New U.S. - Japan Relations Card, (Copy of Publisher's Galley, 1989), 10.

Working with our colleagues around the world, we can identify the consumer interest in our fast-changing world and help influence the decisions which will keep all our economies growing and our environment healthy.

At American Express, our two international financial services conferences which brought together consumer advocates and government officials are one way we have tried to open the channels of communication, to clearly define issues, and begin to develop action agendas to address concerns. Copies of the proceedings of both conferences are available for those with an interest in this area.

PRIVACY & TELECOMMUNICATIONS

These are latent consumer issues that, for several years, consumer research has indicated would become priorities at some point. That point is now. Technological capabilities seem to have hit a critical mass with regard to data collection by, for example, credit reporting agencies, and by credit report users. The question is what protections to impose and how.

The issue is how to balance the needs of business with the needs for consumer protection. There are many opportunities for potential compromise, for example, in the area of clear disclosure, and ways for consumers to opt out of lists. Again, sound research information from consumer academics and participation in the deliberations will help all of us serve the consumer interest better.

At American Express, the Consumer Affairs Office is heavily involved in both privacy and telecommunications issues. For example, we were the catalysts for forming a Company-wide task force to reexamine our policies and practices to ensure that as our business has grown over the last decade, and as technology has been enhanced, that the trust placed in us by consumers is not violated.

On a more public front, we are working with the U.S. Office of Consumer Affairs' new Special Adviser, Bonnie Guiton, to develop a ConsumerCard brochure on ways consumers can protect their privacy.

Information to help guide us about consumer perceptions, behavior, appropriate disclosure, and impact of current and potential legislation would help all of us identify more clearly the consumer interest in these complex issues.

PRODUCT SAFETY/SERVICE/ QUALITY IMPROVEMENT

Many serious issues are lumped together here, and I know members of ACCI have been very actively researching and teaching in these areas.

Almost all consumer affairs professionals have a strong role in these issues. Responsibilities may include analyzing 800# data for root cause customer or quality problems and safety issues. Or, it can mean organizing major long-term efforts to change company culture to put the consumer first.

At American Express, consumer affairs has served as a catalyst for quality improvement efforts Company-wide for the last five years. Part of the process has involved a Company-wide task force of senior management to examine major managerial issues which influence quality improvement. At other companies, for example, it may mean convincing car dealers that there is value in investing in customer loyalty after the sale.

You have or can develop valid methodology for analysis. Consumer expectations and products change so rapidly that keeping up with those changes will be increasingly difficult. By working together we can identify the problems (and the opportunities) to make things happen -- in the consumer interest.

This is the short list of issues that I bring for your consideration of what the 90s will hold for consumer affairs professionals in business.

I'd like to turn briefly to one other major opportunity for researchers and educators regarding consumer affairs professionals in the 90s, that is, in reevaluating how your students are being prepared to take their place in the various branches of consumerism to effectively deal with these and other issues. And, I assure you the jobs are there. SOCAP processed 900 new membership applications last year alone.

I offer my observations of those who have been successful in moving the consumer agenda in the business world, and within the advocacy community. In addition, these are traits that also seem to make a difference in how successful our many interns have been in their time at American Express.

1. An ability to analyze and synthesize vast quantities of information, impressions, ideas, opportunities, and seemingly unrelated incidents to find or make a coherent whole. In the business community, what happens in today's newspaper can be critical. We have to be able to take in new events quickly and integrate them with on-going projects and programs, or quickly develop action plans to respond. There is little time for extended research before making recommendations.

   That's why I have often wished there were better ways to communicate -- a better flow of information between consumer academics and those of us in business. Many days I have searched my memory for someone to call who might know of research related to a developing issue, or who could draw upon his/her experience and wisdom to offer an informed opinion.

2. An ability to communicate persuasively orally and in writing -- and very quickly. Often your opportunity to participate in an issue can vanish if you delay in providing input.

3. Which leads into the third personal characteristic critical for success, that is, an ability to influence and an understanding of the process of personal influence and power. We all know that just because something is right, action in that direction won't necessarily happen.

   We need only recall the "Challenger" disaster to know that speaking out may take courage, but it also takes knowing how to influence. I would offer the caveat, however, that there are situations where philosophical differences are too great to be of influence. Then, perhaps, it's another skill to know when to move on before one's integrity and credibility become compromised.

4. A flair for appropriate promotion of your accomplishments in terms of the organization's objectives. In business you must learn to provide bottom-line accountability, and often very creatively, to keep justifying your existence. Externally, consumers and consumer leaders need to know you're there -- representing their interest -- to build important bridges which are necessary to perform your job effectively. This is another area where consumer academics could be very helpful in figuring out how to quantify in areas that defy quantification.

5. And finally, consumer affairs professionals need vision, in addition to drive, commitment, stamina, ambition, high energy, compassion and a sense of balance and priorities. Within most companies there is so much that needs to be done, you must constantly touch base with your own vision and priorities about what makes sense. College is a time when many of us find personal and professional meaning for our lives. The more we can help students develop a vision and commitment, the stronger our profession will be.

   In my case, I came to consumer affairs through home economics education -- which proved to be an excellent background when I entered the field. In the meantime, I've picked up a Masters of Education and an MBA to round out my perceptions. But, I can always return to my home economics roots to help me sort through an issue in terms of the consumer interest. For example:

I envision consumers as members of families, broadly defined. (A systems approach.) I try to understand the effect my anticipated input, or actions as a representative of American Express, may have on families. Will these policies or practices enhance or hurt families' ability to function and contribute to our society? The answer to that question helps to guide my decision-making process.

Steve shared his teaching syllabus with me for the Consumerism class I mentioned earlier. I thought the projects he had devised sounded exciting, but I was also struck by how valuable the skills to be learned in completing some of these exercises would be in a business environment. For example:

- Discuss the public policy implications of previous ACCI conference papers.
- Analyze a national or state consumer advocacy group or regulatory agency.
- Discuss the costs and benefits of consumerism to our society.

I wish I had had these types of learning experiences along the way. Let me put a cap on my remarks this morning by reiterating how critical I believe it is that those of us who work in the consumer interest find ways to work together more closely to identify problems and solutions, and ways to bring about change. Some of these ways include:

- Conferences such as Wingspread and the Snowbird Conference coming up. These can have great effect if the conversations there include relevance of research presented for some of today's issues, and point direction for the future.

- More cross-fertilization by attending each others' professional association meetings. The opportunities for formal and informal information exchange will go a long way in our members getting acquainted, and in understanding each others' agenda.

- From my viewpoint, a willingness by consumer academics to occasionally provide "quick and dirty" opinions based on wisdom or knowledge-at-hand. These informal conversations can make a difference in how a position is formulated -- when the opportunities for input demand instant turn-around. It at least provides a starting point or context for developing more in-depth plans.

- Working together to prepare students to assume entry level jobs in an environment that changes rapidly. There is a critical need to make consumer affairs students more "marketable," and for business to make entry easier.

- There is a need for on-going education for those of us who are already in the field. We should look for creative, convenient ways to provide growth on-the-job.

- And, we need to find ways to put more consumer affairs people into top positions in companies. Our whole society will benefit if we at least have a chance to make a difference.

These are some of the issues all of us will be dealing with, and a few suggestions on the ways we might establish a closer working relationship.